

XVIII. *Synopsis of British Hemiptera-Heteroptera.*  
By EDWARD SAUNDERS. PART II.

[Read 3rd November, 1875.]

TINGIDIDÆ.

- I. Side lobes of the face produced into two elongate,  
horn-like processes .. .. . *Piesma*.
- II. Side lobes of the face not produced.
- A. Sides of elytra not reticulated.. .. . *Serenthia*.
- AA. Sides of elytra reticulated.
- B. Longitudinal ribs of elytra subparallel, not  
united on the disk .. .. . *Campylostira*.
- BB. Longitudinal ribs of elytra united on the  
disk.
- C. Disk of the elytra, between the ribs, flat.
- D. Internal rib of the elytra distinctly angu-  
lated .. .. . *Monanthia*.
- DD. Internal rib of the elytra not angulated, gene-  
rally curved, but in undeveloped specimens  
straight.
- E. Antennæ slender, apical joint thickest .. *Acalypta*.
- EE. Antennæ stout, very hairy or rugose, apical  
joint not thicker than the rest .. .. *Dietyonota*.
- CC. Disk of elytra between the ribs raised .. *Derephysia*.

PIESMA.

- A. Frontal processes curved and converging.
- a. Sides of thorax not emarginate .. .. *quadrata*.
- b. Sides of thorax emarginate .. .. *Laportei*.
- AA. Frontal processes straight and short, not con-  
verging .. .. . *capitata*.
1. *quadrata*, Fieb. Fig. Dougl. & Scott, Brit. Hem.  
pl. viii. fig. 9.

Grey or reddish-brown, mottled on the elytra with paler spots. Frontal processes much produced, curved inwards and slightly upwards at the apex. Thorax impressed in front, raised posteriorly, very deeply punctured, with three longitudinal carinæ extending across the anterior impression. Sides dilated in front. Scutellum dark, its apex pale. Elytra largely punctured; costæ very prominent;

disk, and especially the sides, more or less mottled or spotted with darker colour.

Length  $1\frac{1}{2}$  line.

Common by sweeping and at the roots of herbage by the sea-shore.

2. *Laportei*, Fieb. Fig. Fieb. Ent. Mon. tab. ii. fig. 17.

Grey, sometimes dull brown, more or less spotted on the elytra with darker colour. Frontal processes much produced, curved inwards and sometimes slightly upwards at the apex. Thorax pale in front, deeply punctured, impressed in front, with two short carinae across the impression. Sides foliaceous and meshed in front, deeply emarginate near the middle. Elytra largely punctured; costae very prominent, brown or grey, with darker spots. Shoulders, each with a pale spot, sometimes very conspicuous.

Length  $1-1\frac{1}{4}$  line.

Generally distributed; found by sweeping, &c., and under herbage.

3. *capitata*, Wolff. Fig. Fieb. Ent. Mon. tab. ii. fig. 18.

Very like the preceding, of which I believe it to be a variety: differs in being of a duller colour, with the spots hardly visible, in the frontal processes being straight and not converging at the apex and in the slightly less emarginate sides to the thorax.

Length  $1-1\frac{1}{4}$  line.

Occasionally by sweeping, &c. and under herbage.

#### SERENTHIA.

1. *lata*, Fall. Fig. Dougl. & Scott, Brit. Hem. pl. ix. fig. 1.

Small, somewhat elongate, largely and closely punctured, in a cell-like manner. Head, antennae and thorax black. Scutellum and elytra ochreous-white, legs reddish.

Length  $1-1\frac{1}{2}$  line.

Local, but common where it occurs, by sweeping. Reigate Hill, &c.

#### CAMPYLOSTIRA.

1. *brachycera*, Fieb. Fig. Dougl. & Scott, Brit. Hem. pl. ix. fig. 6.

Small, somewhat elongate. Head brownish-black.

Thorax punctured, brown, with three carinæ, the lateral ones abbreviated; sides with two rows of meshes in front, one behind. Elytra with large, clear meshes, and with a very strong dorsal costa; the ribs between the meshes brownish-red; the elytra do not meet at the base, so that the abdomen is visible. Legs and antennæ pale; apex of former darker.

Length 1 line.

In moss, &c.; not uncommon.

### MONANTHIA.

- I. Sides of thorax more or less reflexed, very thin, generally with clear meshes.
  - A. Sides of thorax and elytra with projecting hairs .. .. . *reticulata*.
  - AA. Sides of thorax and elytra without projecting hairs.
    - B. Margins of thorax wide, with several rows of meshes.
      - a. Sides of thorax and elytra with four rows of meshes .. .... . *ampliata*.
      - b. Sides of thorax and elytra with three rows of meshes .. .. . *cardui*.
    - BB. Margins of thorax very narrow, with a single row of meshes near the posterior angles .. *costata*.
- II. Sides of thorax not reflexed, more or less inflated.
  - B. The inflated sides of the thorax bearing rows of meshes.
  - C. Thorax with three carinæ extending from the base to the frontal hood.
    - a. Elytra with three rows of meshes at the sides .. .. . *quadrinaculata*.
    - b. Elytra with one row of meshes at the sides *dumetorum*.
  - CC. Side carinæ of thorax abbreviated by the lateral inflations .. .. . *humuli*.
  - BB. Sides of thorax without meshes, each bearing a sort of bubble-like excrescence, reaching to the central carina .. .. . *simplex*.

1. *reticulata*, H.-Scff. Fig. II.-Scff. Wanz. Ins. iii. fig. 288.

Brownish-grey, covered with upright hairs. Sides of the thorax much dilated and rounded at the middle, with three to four rows of large meshes; disk with three nearly straight costæ. Elytra with fine meshes on the disk. Sides much expanded, with three rows of large clear

meshes. Side margins with fine projecting hairs. Legs and antennæ hairy.

Length 2 lines.

Very rare; Monkswood, Huntingdon.

2. *ampliata*, H.-Seff. Fig. Dougl. & Scott, Brit. Hem. pl. ix. fig. 3.

Grey, very finely pubescent. Thorax with the lateral margins largely expanded, especially in front, with five rows of small irregular meshes; disk with three nearly straight costæ. Elytra with five rows of very small meshes at the sides, and with a wide black band crossing them a little above the middle, and with numerous other black spots and lines. Antennæ red, apex black.

Length 2 lines.

Not rare, by sweeping, &c.

Var.? *similis*, Dougl. & Scott.

Shorter than typical form. Antennæ shorter. Sides of the thorax rounded to the hood in front, instead of being angulated. These characters, however, are not to my mind sufficient to establish a species on only two examples, as in all other respects their form is identical with *ampliata*.

3. *cardui*, Linn. Fig. H.-Seff. Wanz. Ins. iv. 127, fig. A.

Grey, more or less spotted, and mottled with black. Thorax raised in front, with the sides gradually rounded to the anterior margin, with three rows of very small meshes; disk with three nearly straight longitudinal carinæ, spotted with black; on the meshes there are also some black spots. Elytra: disk with fine meshes more or less clouded with brown or black; sides with three rows of meshes, traversed by a wide spot just above the middle, and several narrow line-like spots along their entire length; the wide spot at the middle often joins the dark colour of the disk, making a sort of transverse band. Antennæ red, apex black.

Length  $1\frac{1}{2}$  line.

Very common on thistles.

4. *costata*, Fab. Fig. H.-Seff. Wanz. Ins. iv. fig. 390.

Pale ochreous; legs and antennæ rather of a browner tint, apex of latter black. Thorax much narrowed in

front, and convex behind. Sides sinuate, narrowly and sharply reflexed, a single row of meshes visible by looking sideways at the reflexed edge. Disk with three straight costæ. Elytra much wider than thorax. Sides rounded, with three rows of meshes, with occasional brown transverse streaks crossing them.

Length 2 lines.

Not common; Somerset; Bushey, Herts; Reigate; &c.

5. *quadrimaculata*, Wolff. Fig. H.-Seff. Wanz. Ins. iv. 125, fig. A.

Brown or reddish-brown. Elytra with an elongate marginal spot at the base, and a second near the apex on each side, white. Thorax with three well-marked longitudinal carinæ. Sides slightly inflated with honeycomb-like meshes. Elytra with three rows of meshes at the sides in front; four in the middle on the brown portion, and two behind. Apex of discal carina white. Legs and antennæ reddish. Apical joint of latter darker.

Length  $1\frac{3}{4}$  line.

Rare. Dorsetshire, on old apple trees.

6. *dumetorum*, H.-Seff. Fig. H.-Seff. Wanz. Ins. iv. fig. 391.

Brown or reddish-brown. Elytra with a basal spot, and a marginal spot near the apex, white.

Very like the preceding, but differs in having the inflations on the margins of thorax narrower, and their inner margins parallel to the sides, and in having only two rows of meshes on the sides of the elytra in front and one row behind; its size is also smaller.

Length  $1\frac{1}{2}$  line.

Old whitethorns, widely distributed; Oxfordshire, Lee, Southampton, Glanvilles Wootton, Chobham.

7. *humuli*, Fab. Fig. H.-Seff. Wanz. Ins. iv. fig. 361 (*convergens*).

Ochreous with occasional black markings. Head black. Thorax with the inflated meshed portions wide, their inner edges parallel to the lateral margins; disk with three keels, the side ones interrupted at about half their length by the lateral inflations. Elytra more or less marbled with darker colour, exterior discal carina with two black spots, one in the middle and one near the apex; lateral

margins with one row of meshes in front, two behind. Antennæ and legs pale, apex of former black.

Length  $1\frac{1}{2}$ — $1\frac{3}{4}$  line.

Damp places, by sweeping.

8. *simpler*, H.-Seff. Fig. Panz. Faun. Germ. 118, 21.

Reddish-brown. Head black. Thorax with a central carina, on each side of which, and almost touching it, is a rounded, bubble-like inflation, extending to the lateral margin; base of the thorax with two short carinæ converging towards the central one, but interrupted by the inflations. Elytra with fine round cells on the disk; lateral margins with one very narrow row of meshes.

Length  $1\frac{1}{2}$ —2 lines.

Rare. Isle of Wight, Bexley, &c.

#### DEREPHYSIA.

1. *foliacea*, Fall. Fig. Dougl. & Scott, Brit. Hem. pl. ix. fig. 4.

Body testaceous. Thorax darker; sides of latter much expanded and reflexed, with two rows of large clear meshes; central crest with one row, hood with four meshes; costæ between the meshes testaceous. Elytra largely and clearly meshed, with two rows at the sides; disk of each much raised longitudinally; legs and antennæ ferruginous.

Length 2 lines.

Occasionally by sweeping, &c.; abundant at Mickleham in August, in ivy growing on palings. Dougl. & Scott.

#### DICTYONOTA

A. Antennæ black.

a. Antennæ with long projecting hairs .. .. *crassicornis*.

b. Antennæ without projecting hairs .. .. *strichnocera*.

AA. Antennæ pale brown .. .. *fuliginosa*.

1. *crassicornis*, Fall. Fig. Dougl. & Scott, Brit. Hem. pl. ix. fig. 5.

Grey. Head dark brown, with two projecting spines in front on the vertex and one on each side at the base of the antennæ, between them and the eyes. Sides of thorax largely dilated and angulated in front, with three to four large rows of meshes; longitudinal crests each with one row. Elytra clearly meshed, with two rows of meshes at

the sides. Underside of thorax and antennæ black. Abdomen and legs brown.

Length 2 lines.

In moss, and occasionally by sweeping.

2. *strichnocera*, Fieb. Fig. Fieb. Ent. Mon. pl. viii. fig. 4—7.

Narrower than the preceding; sides of the thorax scarcely dilated at all in front, with only two rows of meshes; longitudinal crests each with one row. Elytra with the discal cell much shorter than in *crassicornis*. Sides with two rows of clear meshes. Beneath entirely black. Thighs black, brown at the apex; tibiæ and tarsi pale. Antennæ with the second joint very long and thick; very rugose, with adpressed hairs.

Length 2 lines.

Moss, &c.

3. *fuliginosa*, Cost. = *Fieberi*, Dougl. & Scott. Fig. Ent. Month. Mag. iv. pl. ii. fig. 2.

A larger insect than either of the preceding, with much thinner antennæ, and of a generally browner colour. Head black. Thorax pale, darker in front; sides considerably expanded and angulated anteriorly, with two rows of meshes near the base, three near the front angles; longitudinal crests, each with one row. Elytra with large meshes; discal cell very short. Sides with two rows of meshes, slightly sinuate behind the middle. Legs and antennæ pale brown; apex of latter black.

Length  $2\frac{1}{2}$  lines.

Weybridge, &c.

#### ACALYPTA.

- I. Disk of thorax with only one keel .. .. *brunnea*.
- II. Disk of thorax with three keels.
  - A. Lateral crests touching the hood in front *parvula*.
  - AA. Lateral crests abbreviated, not touching the hood.
    - B. Sides of thorax with three rows of meshes in front; elytra with two rows .. *cervina*.
    - BB. Sides of thorax with two rows of meshes in front; elytra with one row—
      - a. Sutural area with three rows of meshes *nigrina*.
      - b. Sutural area with two rows of meshes *macrophthalma*.

1. *brunnea*, Germ. = *concinna*, Dougl. & Scott. Fig. (*concinna*) Ent. Ann. 1863, fig. 5.  
Ochreous, largely punctured. Head brown. Thorax

with a single straight median crest; sides with three rows of meshes, the internal row very irregular. Elytra largely punctured; sides with two rows of meshes; dorsal carinae much raised, united at a little less than three-quarters of the length of the elytra from their base; entire surface sprinkled with occasional round brown spots. Legs and antennæ ochreous; apex of latter brown.

Length 1 line.

Moss on oak trees; Scarborough and Darenth Wood.

2. *parvula*, Fall. = *obscura*, Dougl. & Scott. Fig. H.-Seff. Wanz. Ins. iv. fig. 372.

Smaller than the preceding; dark grey. Head nearly black. Thorax strongly punctured in front, finely meshed at the base; disk with three crests; the lateral ones produced to the front hood; sides of thorax with two rows of clear meshes in front, one behind. Elytra finely meshed, with one row of clear meshes at the sides, elongate and somewhat sinuate posteriorly; in developed specimens short, and rounded in undeveloped. Legs and antennæ testaceous; apex of latter black.

Developed form rare.

Length 1 line.

Not uncommon in moss, &c.

3. *cervina*, Germ. Fig. Dougl. & Scott, Brit. Hem. pl. ix. fig. 7.

Larger than either of the preceding species; testaceous. Head brown. Antennæ and legs reddish; apex of former black. Thorax with three keels, the side ones abbreviated; sides much expanded, angulated in front at their juncture with front margin, with 3—4 rows of meshes. Disk largely punctured, posteriorly meshed. Elytra meshed. Side margins very wide at the shoulders, with three rows of meshes; narrow in the middle, with one row; and wider again towards the apex, with two rows. Beneath testaceous-brown.

Length  $1\frac{1}{2}$  line.

Rare; in moss, &c.

4. *nigrina*, Fall.

A more convex species than any other of this genus. Dark iron grey. Head and antennæ black; third joint sometimes reddish. Sides of thorax with two rows of fine meshes. Disk with three keels, the side ones abbrevi-



viated. Anterior angles rounded. Elytra finely and regularly meshed; sides with one row of meshes; sutural area with three rows.

Length 1 line.

Scotland.

5. *macrophthalmia*, Fieb.

Only differs from the former in its paler colour, and in the sutural area having two rows of meshes only. I have, however, a specimen in which on one side a third row is set up; and I am therefore inclined to doubt the value of this species.

Length 1 line.

### ARADIDÆ.

- |                           |    |    |    |    |                  |
|---------------------------|----|----|----|----|------------------|
| I. Scutellum semicircular | .. | .. | .. | .. | <i>Aneurus</i> . |
| II. Scutellum triangular  | .. | .. | .. | .. | <i>Aradus</i> .  |

### ANEURUS.-

1. *lævis*, Fab. Fig. Dougl. & Scott, Brit. Hem. pl. ix. fig. 8.

Exceedingly flat; deep brown, punctured. Head with a very projecting central lobe and a triangular projection on each side, between it and the eye. Antennæ with the terminal joint as long as second and third together. Thorax subtrapezoidal, slightly sinuate at its sides. Scutellum large, rounded. Corium exceedingly short. Membrane very large, finely reticulated; the abdomen projecting all round it.

Length  $2\frac{1}{2}$ —3 lines.

Under bark; generally distributed.

### ARADUS.

- |     |  |    |    |    |    |                    |
|-----|--|----|----|----|----|--------------------|
| A.  | Second joint of antennæ short and thick, much shorter than third and fourth together | .. | .. | .. | .. | <i>depressus</i> . |
| AA. | Second joint of antennæ more elongate, nearly as long as third and fourth together.  |    |    |    |    |                    |
| a.  | Species brown  | .. | .. | .. | .. | <i>corticis</i> .  |
| b.  | Species deep black..   | .. | .. | .. | .. | <i>aterrimus</i> . |
1. *depressus*, Fab. Fig. Dougl. & Scott, Brit. Hem. pl. ix. fig. 9.
- Head, thorax, antennæ and scutellum brown; granu-

lated. Thorax with four granulated keels on the disk; sides foliaceous, widely reflexed, with a clear white spot near the anterior angle. Scutellum granulated in front; transversely rugose posteriorly; its sides much reflexed. Elytra pale whitish, posteriorly brown. Sides much dilated at the base. Membrane brown, paler at the base. Nerves white. Connexivum red-brown. Legs pale.

Length 3 lines.

Under bark, &c.; not rare.

2. *corticalis*, Linn. Fig. Curtis, Brit. Ent. v. pl. 230.

Dull brown. Thorax with four granulated keels on the disk. Sides foliaceous, irregularly dentate in front; narrowly reflexed. Base deeply sinuate in the middle. Scutellum finely granulated, with its margins slightly raised. Elytra rather paler towards the base; slightly dilated at the shoulders. Connexivum brown, each segment with a paler spot at the apex. Antennæ with the apex of third joint pale.

Length 3 lines.

Rare; under bark of firs; West Wickham, Kent.

3. *aterrimus*, Dougl. & Scott.

Deep black. Thorax with four granular keels; lateral margins narrow, and but slightly reflexed posteriorly; base nearly straight. Scutellum with the sides much raised. Elytra slightly dilated at the shoulders, with strongly marked nerves. Connexivum with a yellowish spot at the posterior angle of each segment.

Length  $2\frac{3}{4}$  lines.

Darenth Wood. One specimen, Douglas.

## CAPSIDÆ.

I. Head channelled in the centre, or transversely impressed on the vertex.

A. First joint of tarsi much longer than second.

B. Head not channelled, vertex impressed .. *Actropis*.

BB. Head channelled down the middle.

C. Head longer than broad.

a. Base of thorax truncate, covering the base of the scutellum. Scutellum punctured *Miris*.

b. Base of thorax emarginate, not covering the base of the scutellum. Scutellum smooth .. .. . *Megalocera*.

- CC. Head much broader than long.
- a. Elongate, depressed, smooth .. .. *Teratocoris*.
  - b. Elongate, not depressed, covered with long hairs .. .. *Leptopterna*.
- AA. First joint of tarsi not longer than second .. *Pantilius*.
- II. Head not channelled or transversely impressed.
- A. Thorax with the anterior margin raised and rounded, or constricted into a short, collar-like neck, or much constricted in front and much raised and widened behind, with the posterior margin largely emarginate, the callosities often very prominent.
  - B. Thorax not much raised posteriorly, base not widely emarginate.
  - C. Membrane with two cells.
  - D. Sides of the thorax sharp in front .. .. *Lopus*.
  - DD. Sides of the thorax not sharp in front.
  - E. Neck more or less swollen, head not divided from the neck by a carina, or raised line.
  - F. Membrane marbled .. .. *Phytozoris*.
  - FF. Membrane not marbled.
  - G. Rostrum extending beyond the posterior coxæ.
    - a. Posterior tibiæ long; nearly twice as long as the intermediate ones .. .. *Miridius*.
    - b. Posterior tibiæ not so long; not more than once and a half as long as the posterior ones .. .. *Oncognathus*.
  - GG. Rostrum not extending beyond the posterior coxæ.
  - H. Species not deeply punctured, or rugose.
    - a. Second joint of antennæ not clavate .. *Calocoris*.
    - b. Second joint of antennæ thickly clavate .. *Rhopalotomus*.
- III. Species deeply punctured, or rugose.
- a. Species glabrous .. .. *Capsus*.
  - b. Species hairy .. .. *Bothynotus*.
- EE. Neck not swollen, head carinated posteriorly.
- F. Carina visible only near the eye on each side.
    - a. Suboval, third and fourth joints of antennæ subequal .. .. *Liocoris*.
    - b. Subelongate, fourth joint much shorter than third .. .. *Dichroscytus*.
  - FF. Carina visible throughout.
    - G. Species covered with golden, deciduous, scattered pubescence .. .. *Peciloscytus*.
    - GG. Species not covered with golden pubescence.
    - H. Species more or less pubescent.
      - I. Vertex very wide .. .. *Hadrodema*.
      - II. Vertex not very wide.
        - a. Thorax transversely rugose .. .. *Plesiocoris*.
        - b. Thorax not transversely rugose .. .. *Lygus*.

- III. Species glabrous .. .. . *Camptobrochis*.
- CC. Membrane with one cell.
- a. Third and fourth joints of antennæ subequal .. .. . *Bryocoris*.
- b. Third joint distinctly longer than fourth .. .. . *Monalocoris*.
- BB. Thorax much raised posteriorly; posterior margin largely emarginate.
- C. First joint of tarsi twice or three times longer than second .. .. . *Pithanus*.
- CC. First joint of tarsi not much longer than second.
- D. Eyes touching or almost touching the anterior margin of the thorax.
- E. Second joint of the antennæ longer than the third and fourth together.
- a. Callosities of the thorax very prominent .. .. . *Globiceps*.
- b. Callosities of the thorax not prominent .. .. . *Cyllocoris*.
- EE. Second joint of antennæ not so long as the third and fourth together.
- F. Antennæ somewhat robust, thorax with long scattered hairs .. .. . *Eroticoris*.
- FF. Antennæ very fine, thorax not hairy.
- G. Thorax with an elongate collar .. .. . *Campyloneura*.
- GG. Thorax without an elongate collar.
- H. Species nearly entirely green, elytra subdiaphanous .. .. . *Elorhinus*.
- III. Species not green, elytra not diaphanous.
- a. Cells of wings without a hook-like nerve .. .. . *Chlamydatus*.
- b. Cells with a hook-like nerve .. .. . *Byrsoptera*.
- DD. Eyes situated at some distance from the front margin of the thorax.
- E. Species not green, head constricted behind the eyes; eyes large.
- a. Posterior thighs grooved .. .. . *Systellanotus*.
- b. Posterior thighs not grooved .. .. . *Dicyphus*.
- EE. Species green, head not constricted behind the eyes; eyes small .. .. . *Macrolophus*.
- AA. Thorax with the anterior margin not raised and rounded, nor constricted into a short collar-like neck, nor much constricted in front and widened behind, with the posterior margin emarginate.
- B. Eyes not nearly touching the anterior margin of the thorax .. .. . *Malacocoris*.
- BB. Eyes touching or nearly touching the anterior margin.
- C. Posterior tibiæ more or less curved and flattened .. .. . *Pilophorus*.
- CC. Posterior tibiæ not curved and flattened.
- D. Wing cells without a hook-like nerve.
- E. Vertex of head covering the front margin of the thorax or produced posteriorly and more or less rounded.

- E\*. Short and stout, not covered with yellow or white scale-like pubescence.
- a. Antennæ very long and thin, nearly twice as long as the body .. .. . *Halticus*.
  - b. Antennæ not long and thin .. .. . *Stiphrosoma*.
- E\*E\*. More or less clongate, black, covered with short yellow or whitish scale-like hairs .. *Heterocordylus*.
- EE. Head not covering the front margin of the thorax, nor produced posteriorly.
- F. Second joint of antennæ not much dilated and flattened.
  - G. Insect covered with short deciduous golden or whitish hairs .. .. . *Orthocephalus*.
- GG. Insect not covered with short deciduous golden or whitish hairs.
- a. Second joint of antennæ very long, once and a half as long as the third and fourth together .. .. . *Loxops*.
  - b. Second joint of antennæ not nearly so long as the third and fourth together *Orthotylus*.
- FF. Second joint of antennæ much dilated and flattened .. .. . *Heterotoma*.
- DD. Wing cells with a hook-like nerve.
- E. Body dull and opaque.
  - F. Tibiæ spotted with black .. .. . *Anotherops*.
- FF. Tibiæ not spotted
- G. Species more or less densely hairy; hairs chiefly black.
- II. Eyes not very small, distance between the eyes not so wide as twice the width of the eye, lateral margin of thorax not sharp.
- a. Antennæ subrobust throughout .. *Hoplomachus*.
  - b. Antennæ very thin at the apex .. *Macrocoleus*.
- III. Eyes very small, vertex much wider than twice the width of the eye, side margins of the thorax more or less sharp .. .. *Amblytylus*.
- GG. Species without black hairs, pubescence very fine and regular.
- a. Head across the eyes not nearly so wide as the base of the thorax .. .. *Oncotylus*.
  - b. Head across the eyes as wide or nearly as wide as the base of the thorax .. *Conostethus*.
- EE. Body more or less shining.
- F. Second joint of antennæ shorter than third .. *Harpocera*.
- FF. Second joint of antennæ longer than third.
- G. Elongate, depressed, elytra parallel-sided, tibiæ with pale spines .. .. . *Phylus*.
- GG. Not clongate, depressed and parallel-sided, tibiæ with black spines.
- H. Elytra covered with a short, deciduous, scale-like, pale pubescence.
    - a. Second joint of antennæ much incrassated .. .. . *Atractotomus*.
    - b. Second joint of antennæ not thickened *Psallus*.

- III. Elytra without short, deciduous, scale-like hairs; pubescence generally grey and adpressed .. .. . *Plagiognathus*.

## ACETROPIS.

1. *Gimmerthalii*, Flor. = *seticulosa*, Dougl. & Scott.

Fig. Dougl. & Scott, Brit. Hem. pl. x. fig. 5.

♂. Elongate, nearly parallel-sided. ♀. Elongate, sub-elliptic. Pale ochreous, sometimes slightly greenish, with scattered erect black hairs. Head with a central dark line, and a dark margin to the eyes. Thorax with the sides very thin and slightly reflexed; a narrow line bordering the pale dorsal line, and a wider one about midway between it and the lateral margin, brown. Scutellum with a brown line on each side of the disk. Elytra, within the discal nerve of the corium, slightly darkened; nerves very prominent in the ♀. Legs and antennæ the same colour as the upper surface in the ♂, rather darker in ♀.

Length  $2\frac{3}{4}$  lines.

In damp places by sweeping. Woking, Deal, New Forest, &c.

## MIRIS.

- A. Hind thighs toothed beneath .. .. . *calcaratus*.  
 AA. Hind thighs not toothed.  
 a. Insect elongate, face with a distinct impression extending to its apex .. .. . *levigatus*.  
 b. Insect subrobust, face impressed deeply only near the forehead .. .. . *holsatus*.

1. *calcaratus*, Fall. Fig. (*dentata*) Hahn, Wanz. Ins. i. 15, fig. 8 (not good).

Ochreous or green. Antennæ and tarsi in green specimens more or less red. Thorax and scutellum deeply punctured, the former with a dark stripe down each side at some distance from the margin. Elytra, in some specimens, with a short brown line on the clavus and a narrow brown stripe down the corium; in others almost concolorous throughout. Legs, with the thighs, more or less spotted; hind thighs with two sharp teeth. Antennæ shortly pilose, apical joint and basal joint about equal in length, third and fourth together shorter than second.

Length  $3\frac{1}{2}$ —4 lines.

Common by sweeping, &c.

2. *levigatus*, Linn. Fig. Dougl. & Scott, Brit. Hem. pl. x. fig. 4.

Ochreous or green. Antennæ and tarsi in green specimens red. Thorax and scutellum closely and deeply punctured; sides of former sinuate, with a brown stripe within the margin as in the preceding species. Elytra concolorous throughout, or nearly so. Thighs spotted, unarmed. Antennæ: first joint densely pilose, shorter than apical joint; third and fourth together longer than second.

Length  $3\frac{1}{2}$ —4 lines.

Common by sweeping, &c.

3. *holsatus*, Fab. Fig. H.-Scff. Wanz. Ins. iii. fig. 256.

Shorter and broader than either of the preceding. Head and thorax more or less pale brown, with a darker stripe on each side. Thorax deeply punctured, its sides and base nearly straight. Elytra inwardly brown, outwardly pale green. Thighs spotted. Antennæ: first joint short and stout, covered with short brown hairs; third and fourth together considerably longer than second, fourth four-fifths as long as third. Beneath ochreous or green.

Length  $3-3\frac{1}{2}$  lines.

Not uncommon in grassy places, by sweeping.

#### MEGALOCERÆA.

- A. Third joint of antennæ much shorter than second .. .. . *erratica*.
- AA. Third joint of antennæ as long as the second.
1. Antennæ obscure, longer than body; basal joint long, three-quarters as long as the head and thorax together .. .. *longicornis*.
  2. Antennæ red, about the same length as body, basal joint scarcely longer than head .. .. . *ruficornis*.

1. *erratica*, Linn. Fig. Hahn, Wanz. Ins. ii. fig. 163, 164.

Pale green, with three stripes on the head and four on the thorax black; or black, with the sides of thorax and elytra yellowish-green; in the latter the dorsal line of the thorax and of the scutellum and the crown of the head are generally pale also. Tibiæ and antennæ densely pubescent, thighs more or less spotted, third joint of

antennæ considerably shorter than second, fourth and first subequal.

Length 4 lines.

Common by sweeping, &c.

2. *longicornis*, Fall. Fig. H.-Seff. Wanz. Ins. iii. fig. 258.

Rather larger than the preceding, with much longer antennæ; pale-green, thorax more or less fuscous in the middle. Legs and antennæ shortly haired; tibiæ finely spined on their inner margins. Antennæ darkened towards the apex; second and third joints subequal, fourth joint shorter than the first.

Length 4 lines.

By sweeping; not abundant.

3. *ruficornis*, Fall.

Green, with the antennæ and tarsi more or less red. Much smaller than either of the preceding, with thicker antennæ. Thorax and scutellum often with a pale dorsal line, bordered on each side with a narrow brown one; there is also a brown stripe in some near the lateral margin. Antennæ with the second and third joints subequal, and the fourth rather shorter than the first.

Length  $2\frac{1}{2}$ —3 lines.

Common by sweeping, especially in damp places.

#### TERATOCORIS.

- A. Third joint of antennæ about four-fifths as long as second .. .. . *antennatus*.
- AA. Third joint of antennæ scarcely more than half so long as second.
- a. Basal joint of antennæ in ♂ not so long as fourth. Thorax and scutellum in ♂ black, with light markings; ♀, first joint of antennæ once and a half as long as head; insect livid green .. .. . *viridis*.
- b. Basal joint of antennæ in ♂ as long as fourth. Thorax and scutellum pale, with black markings; ♀, first joint of antennæ once and two-thirds as long as head; insect bright green .. .. . *Saundersi*.

1. *antennatus*, Boh., var. = *dorsalis*, Dougl. & Scott. Fig. Ent. Annual, 1866. Frontisp. fig. 4—4\*.

Pale green, or greenish-yellow. Head black, with a pale spot on each side of the base. Thorax black, with



the callosities and hind angles yellowish; scutellum black. Elytra with the apex of the clavus widely black, and with a broad black margin to the suture of the corium, the black colour often covering the apex, and also extending on to the disk just above the middle. Apex of femora and the tibiæ more or less red. Antennæ with the first joint reddish, narrowly black at the base; second joint red, third and fourth brown.

Length 2—3 lines.

Wicken Fen and Reigate; in marshy places.

2. *viridis*, Dougl. & Scott. Fig. Ent. Month. Mag. vol. iv. pl. i. fig. 2.

Pale green, ♂ with the head and thorax black; the former with a yellowish spot on each side at the base; the latter with a spot on each side of the disk, and the posterior angles green. Elytra green.

♀ with only a line down the centre of the head black. Antennæ in both sexes green, dusky towards the apex; basal joint shorter than the apical joint.

Length 2 lines.

3. *Saundersi*, Dougl. & Scott.

Bright green. ♂ with a black streak extending from the front of the head nearly or quite to the apex of the scutellum, and a small black line near the anterior angle of the thorax; hind femora and tarsi more or less reddish at the apex. Antennæ red; basal joint, except at the apex, green; basal and apical joints subequal.

♀ paler than male; in developed specimens the black line only visible on the head and thorax, not extending to the scutellum; in undeveloped form entirely green.

Length 3 lines.

Deal; on rushes, &c. in marshy places; near the sand-hills.

#### LEPTOPTERNA.

A. Hairs of legs and antennæ long and projecting. Elytra with a wide lateral yellow stripe .. .. . *dolobrata*.

AA. Hairs of legs and antennæ shorter, not so projecting. Elytra almost unicolorous, or with a very narrow lateral band .. .. . *ferrugata*.

1. *dolobrata*, Linn.

♂ Head and thorax black, the former with a spot near each eye, and another, longitudinal one, above the mouth;

the latter with the dorsal line and lateral margins yellow. Scutellum black; dorsal line yellow, the colour spreading suddenly near the middle. Elytra inwardly dull brown, margins widely yellow; legs pale, more or less spotted. Antennæ black; first joint more or less pale. Beneath yellow, variegated.

♀ wider, almost always with the elytra not fully developed, much paler than ♂; scutellum entirely pale, the yellow also predominating on the thorax.

Length 4 lines.

Common by sweeping.

2. *ferrugata*, Fall. Fig. Dougl. & Scott, Brit. Hem. pl. x. fig. 6.

Narrower than the preceding, and much duller in colour. Head black, with a narrow stripe on the inner margin of each eye. Thorax black, with the dorsal line and side margins pale. Scutellum black, with the dorsal line pale. Elytra dull, pinkish-brown, with the margin narrowly ochreous. Legs more or less spotted. Antennæ black, second joint brown. ♀ generally undeveloped.

This species varies much in colour.

Length 4 lines.

Common, by sweeping, &c.

#### PANTILIUS.

1. *tunicatus*, Fab. Fig. Dougl. & Scott, Brit. Hem. pl. xi. fig. 2.

Greenish-red to reddish-brown, sprinkled with very small black spots, from each of which is a short thick black hair. Thorax with a narrow collar in front, lateral margins with sharp edges, nearly straight. Elytra with the margins narrowly pale. Cuneus often of a blood-red colour on its inner margin; membrane with the nerves red. Antennæ and legs pale, more or less tinged with red. Apex of 2nd, 3rd and 4th joints of the former red, or red brown; second joint three times as long as first; third joint  $\frac{1}{4}$  as long as second; fourth  $\frac{1}{2}$  as long as third.

Length 4 lines.

On hazels, not uncommon in August and September.

#### LOPUS.

A. Legs and antennæ densely covered with long black hairs .. .. . *gothicus*.

AA. Legs and antennæ without long black hairs, or only with occasional ones.

a. Thighs with a red ring .. .. . *mat*.

b. Thighs without a red ring .. .. . *sulcatus*.

1. *gothicus*, Linn. Fig. Panz. Faun. Germ. 92, 15.

Black, covered with erect black hairs; head with a small yellow spot near each eye; sides of the thorax in front yellow; scutellum with the apex red; elytra with the exterior margin of the corium, except at its extreme apex, yellow; cuneus red, with the apex and the inner margin black. Legs and antennæ black.

Var. *superciliosus*. Entirely black, except the pale sides to the corium.

Length 3—3½ lines.

2. *mat*, Ross. Fig. (*miles*) Dougl. & Scott, Brit. Hem. pl. xv. fig. 7.

Very similar to the preceding in colour, but at once distinguished by the absence of the erect black hairs on the surface, in place of which is a fine yellow adpressed pubescence; the red colour on the sides of the thorax is generally wider, and the dorsal line is also in most specimens red. Thighs each with a red ring; tibiæ also often pale in the middle.

Length 3—3½ lines.

3. *sulcatus*, Fieb.

Like the two preceding species in colour, except that the markings are paler; but at once distinguishable by its longer form, the narrower thorax in front, with sinuate sides, and the sulcate scutellum.

Length 3—3½ lines.

Portsmouth and Slapton.

## PHYTOCORIS.

## I. Species black or grey.

A. Lateral margins of corium dark throughout, without marbling or spots .. .. *distinctus*.

## AA. Lateral margins marbled or spotted.

B. Dark bands of the intermediate tibiæ very distinct; much narrower than the intervening pale bands; basal band not wider than the others.

a. Elytra very long, dull grey, very indistinctly mottled .. .. *longipennis*.

b. Elytra shorter, black and green, or black and yellow; marbling distinct .. .. *tibiæ*.

BB. Dark bands of the intermediate tibiæ not very distinct, nearly as wide or wider than the pale bands; basal band generally wider than the rest.

C. Basal joint of the antennæ longer than the thorax.

a. Larger; second and third joints of antennæ, exceedingly narrowly pale at the base .. *populi*.

b. Smaller; second and third joints of antennæ, rather widely pale at the base .. *Reuteri*.

CC. Basal joint of antennæ not so long as thorax .. *pini*.

II. Species red-brown.

a. Basal joint of antennæ not thickened, and set with strong bristly black hairs; scutellum without a pale central line .. *ulmi*.

b. Basal joint of antennæ thickened, and not set with strong bristly black hairs; scutellum with a pale central line .. *varipes*.

1. *distinctus*, Dougl. & Scott.

Head and thorax brownish-grey, the latter more or less clouded with black posteriorly; the basal margin white. Scutellum black-brown, with a spot on each side, and the apex white. Clavus and corium uniformly black or black-brown, with the exception of a square spot above the cuneus, clothed with intermixed black and pale-grey hairs. Cuneus paler, with the margins more or less darkened; membrane marbled. Femora mottled, especially near the apex. Tibiæ barred with black.

Length  $3\frac{1}{2}$ —4 lines.

On poplars; Blackheath, &c.

Easily distinguished by the unicolorous corium from all the other species.

2. *longipennis*, Flor.

= *dimidiatus*, Dougl. & Scott.

Greyish-brown, indistinctly mottled with lighter colour. Legs with thighs mottled, especially near the apex; tibiæ barred with black. This and the following species (var. *dubius*, Dougl. & Scott) are sometimes very much alike in colouring, but this may be distinguished by the longer, thinner antennæ, longer clytra, which are more indistinctly mottled, and by the distinct narrow black rings on the intermediate tibiæ; it is, also, altogether a more graceful looking insect.

Length  $3\frac{1}{2}$ —4 lines.

On oaks, &c.; not rare.

3. *populi*, Linn.

Var. = *dubius*, Dougl. & Scott.

Sometimes nearly black, mottled with brown, or greyish-brown mottled with lighter colour; very variable. In the darker varieties the first joint of the antennæ is generally longitudinally streaked with black; in the paler varieties it is mottled. I cannot, however, imagine that such a character alone should be of specific value.

Length  $3\frac{1}{2}$  lines.

On poplar, lime, oak, &c.

4. *tiliæ*, Fab. Fig. Dougl. & Scott, Brit. Hem. pl. x. fig. 8.

Var. = *marmoratus*, Dougl. & Scott.

Pale green or yellow, more or less mottled, and marked with black and brown; sides of the thorax and base sometimes widely black. Thighs mottled; tibiae barred with black.

Length  $3\frac{1}{2}$  lines.

On oaks, &c.

A very pretty and variable species, the elytra sometimes (in var. *marmoratus*) being nearly black speckled with yellow, and with a larger yellow spot on the lateral margin, besides the cuneus and the spot on the corium adjoining it. At other times the elytra are green, with only occasional darker markings. Between these extreme varieties all sorts of intermediate colourings may be found. The bright clear markings distinguish this species from all its allies.

5. *Reuteri*, Saund.

= *crassipes*? Dougl. & Scott, nec Flor.

Grey-brown, indistinctly mottled with lighter brown; corium inwardly darker; legs barred much as in *populi*, from which it is easily distinguished by its shorter, smaller form and less marbled elytra.

Length  $3\frac{1}{4}$  lines.

On apple trees, &c.

6. *pini*, Kirsch.

Colour and marbling almost exactly like the preceding, but at once distinguishable by the short first joint of the antennæ and the much shorter posterior tibiae.

Length  $3\frac{1}{4}$  lines.

On firs; Scotland.

7. *varipes*, Boh. Fig. (*ulmi*) H.-Seff. Wanz. Ins. iii. fig. 234.

= *ulmi*, Dougl. & Scott, &c., nec Linn.

Brownish-red or ochreous-brown; elytra with irregular longitudinal darker markings; lateral margins narrowly mottled. Cuneus marbled with purplish-red; membrane marbled with grey. Femora brown, with lighter markings; front tibiae with two rings, and the apex, brown; intermediate tibiae with a very narrow ring near the base, sometimes scarcely visible; posterior tibiae with the base widely brown. Antennæ: first joint marbled, and with long

projecting concolorous hairs; rest brown, with the base of second pale.

Length  $3\frac{1}{2}$  lines.

Common by sweeping, &c., in summer.

8. *ulmi*, Linn. Fig. (*divergens*) Mey. Caps. pl. i. fig. 1.

= *divergens*, Dougl. & Scott, &c.

Similar to the preceding in colour, but with the elytra finely mottled, more densely pubescent, and without the dark lines. Cuneus generally blood-red, except at the base. The antennæ are longer, and the basal joint thinner, and set with scattered, strong, black, bristly hairs; legs as in the preceding, but the rings on the front legs scarcely visible.

Length  $3\frac{1}{4}$ — $3\frac{1}{2}$  lines.

By beating and sweeping; not uncommon.

#### MIRIDIUS.

1. *quadrivirgatus*, Costa. Fig. Dougl. & Scott, Brit. Hem. pl. x. fig. 7.

Pale yellowish-white, finely pubescent. Head, thorax and scutellum with two longitudinal brown stripes, extending from the mouth to the apex of the scutellum; sides of the thorax also brown. Elytra: clavus outwardly widely brown, nerves pale; corium brown between the nerves; cuneus red-brown in the middle, its margin pale; membrane darkened round the nerves, and also with a darker stripe below the cell. Legs and antennæ pale, finely spotted with red-brown.

Length  $4\frac{1}{2}$  lines.

By sweeping; Deal, Lowestoft, Worthing; rare.

#### ONCOGNATHUS.

1. *binotatus*. Fab. Fig. H.-Seff. Wanz. Ins. iii. fig. 296.

Green or yellowish-green, clothed with black hairs, intermixed with scattered deciduous golden ones. Thorax generally with two small round black spots on the disk. Corium often with two longitudinal stripes, posteriorly more or less black. Membrane dusky; nerves and a wide margin on each side of them paler. Legs with the thighs spotted.

Length 4 lines.

Very common, by sweeping, &c.

## CALOCORIS, Fieb.

- I. Apex of cuneus more or less widely black.
- A. Scutellum dark.
- a. Corium unicolorous throughout .. .. *fulvomaculatus*.
- b. Corium widely pale, exteriorly at the shoulders .. .. *seticornis*.
- AA. Scutellum pale, except at the base.
- a. Elytra pale yellow, with longitudinal dark striæ .. .. *striatellus*.
- b. Elytra black, with pale yellow spots .. *searguttatus*.
- II. Apex of cuneus not black, or only so at the very extreme apex.
- A. Species not green, nor greyish-green.
- B. Surface dull, more or less pubescent.
- C. Thorax black, with pale markings.
- a. Basal joint of antennæ longer than head *striatus*.
- b. Basal joint of antennæ robust, not so long as head .. .. *marginellus*.
- CC. Thorax not black.
- a. Apical joint of antennæ not nearly so long as the third .. .. *ticinensis*.
- b. Apical joint of antennæ almost as long as third .. .. *roseomaculatus*.
- BB. Surface glabrous, shining .. .. *infusus*.
- AA. Species green or greyish-green.
- B. Third and fourth joints of antennæ as thick as the rest .. .. *chenopodii*.
- BB. Third and fourth joints of antennæ thinner than the rest.
- a. Apical joint longer than third .. .. *alpestris*.
- b. Apical joint not so long as third .. *bipunctatus*.

1. *fulvomaculatus*, De Geer. Fig. Dougl. & Scott, Brit. Hem. pl. xi. fig. 1.

Dull greyish-brown, clothed with a pale, golden, scale-like pubescence. Head generally with a pale spot near each eye. Thorax dark, with a pale spot on the dorsal line; or pale, with the anterior portion and a spot on each side of the base dark. Elytra of the same colour as the thorax. Cuneus orange-coloured, with the apex widely black. Legs and antennæ reddish-brown; femora irregularly spotted with darker brown; second joint of antennæ darker at the apex.

Length 3 lines.

On various shrubs and bushes; often very abundantly.

2. *seticornis*, Fab. Fig. Hahn, Wanz. Ins. i. fig. 114 (*lateralis*).

Head and thorax black, shining; the latter often with a red spot on the disk. Elytra dark brownish-black,

clothed with a pale golden deciduous pubescence. Corium with a triangular spot, on its exterior margin, at the base, pale ochreous. Cuneus red, with the apex and the interior basal angle black, or occasionally entirely black. Membrane dark fuscous. Femora black, extreme apices paler; tibiæ of two anterior pairs pale. Antennæ: first and second joints dark, third and fourth paler.

Length  $3\frac{1}{2}$ —4 lines.

Very rare; Isle of Wight.

3. *striatellus*, Fab. Fig. Hahn, Wanz. Ins. ii. fig. 218.

= var. *fornicatus*, Dougl. & Scott.

Pale yellow. Head variegated with brown and black. Thorax shining, with the base more or less widely, except the actual margin, and two spots on each side of the disk, black. Scutellum pale black at the base. Elytra covered with fine adpressed hairs. Clavus and corium longitudinally streaked with black. Cuneus with the apex widely black. Membrane dusky; nerves, and a spot on each side below the apex of the cuneus, pale. Thighs reddish, with a paler band near the middle; tibiæ paler, their apices and tarsi brown. Antennæ with the apex of second and the whole of the third and fourth joints brown.

Length  $3\frac{3}{4}$ —4 lines.

Common, by beating trees, &c.

4. *sexguttatus*, Fab. Fig. H.-Seff. Wanz. Ins. iii. fig. 295.

Head black, with a pale spot near each eye above the insertion of the antennæ. Thorax black, with the collar, dorsal line, and an elongate marginal spot on each side, pale yellow. Scutellum black at the base, pale at the apex. Clavus pale at the apex. Corium black, lateral margin, and an elongate humeral spot, and a small spot at the interior angle above the membrane, pale yellow. Cuneus orange-coloured, apex black; membrane dusky, with a spot at the apex of the cuneus paler. Legs dark greyish-brown; thighs sometimes spotted. Antennæ black.

Length  $3\frac{1}{4}$  lines.

Not common, by beating and sweeping.

5. *striatus*, Linn. Fig. Panz. Faun. Germ. 93, 22.

Head and thorax black; the former with the inner margins of the eyes more or less yellow, the latter with a yellow spot on the disk; the size of this spot varies much, and sometimes spreads all over the thorax. Scutellum



yellow, with the base and a central line black. Elytra of a lurid yellow, the nerves margined with black; cuneus orange-coloured. Membrane dusky, with a transparent spot below the apex of the cuneus. Legs red; tarsi and the base of the posterior tibiæ black. Antennæ: first joint generally red, rest black; base of third yellow.

Length 5—5½ lines.

Occasionally by beating trees, &c.

6. *marginellus*, Fab. Fig. Hahn, Wanz. Ins. ii. fig. 202 (*scriptus*).

Head and thorax black, the latter with the collar, dorsal line at the base and a short line on each side near the posterior angle, yellow. Scutellum black. Elytra with the clavus exteriorly yellow. Corium widely yellow or orange-coloured on the lateral margins; brown or black on the disk, often with a yellow stripe within the discal nerve. Cuneus orange-coloured. Membrane dusky. Legs dusky-brown. Antennæ black.

Length 4 lines.

Very rare. To be looked for by sweeping and beating.

7. *ticinensis*, Mey. Fig. Meyer, Caps. T. vi. fig. 1.

Dull red, the cuneus sometimes paler. Head and the tubercles in front of the thorax sometimes more or less brown. Thighs spotted with brown, or in some very dark specimens the hind thighs are almost black. Surface of head and thorax shining; elytra dull, clothed with rather long yellow hairs.

Length 3½—4 lines.

By sweeping in marshes near Gomshall and Chobham, Surrey.

8. *roscomaculatus*, De Geer. Fig. Hahn, Wanz. Ins. i. fig. 104 (*ferrugatus*).

Head black, with a yellow line round the eye; or more or less red, with paler markings. Thorax pale green or greenish-yellow, with a wide brown stripe on each side of the disk, and often with the tubercles in front dark-brown or black. Scutellum pale, with the dorsal line and base widely black in the ♂, but with only a faint dark line down the centre in the ♀. Elytra: clavus red, with the apex green; corium green or greenish-yellow, with two elongate red spots placed side by side above the cuneus, red; these are sometimes confluent. Cuneus pale. Legs in ♂ dull reddish, spotted with brown on the thighs; in ♀ greenish,

spotted on thighs with red. Antennæ brown or red, with the basal joint in the ♂ often black.

Length  $3\frac{1}{2}$  lines.

Very common by sweeping, &c.

9. *infusus*, H.-Scff. Fig. H.-Scff. Wanz. Ins. iv. fig. 381.

Yellow or orange-yellow; glabrous, very variable in colour; sometimes almost unicolorous; at others, with the posterior margin of the thorax, the scutellum, and a wide band across the apex of the corium, black; legs and antennæ red; between these extreme colourations there is nearly every gradation, the posterior band often appearing only as a spot in the centre of the apical margin of the corium.

Length  $3\frac{1}{2}$  lines.

Not common; on oaks; Lewisham, Chobham, and Gomshall, Surrey.

10. *chenopodii*, Fall. Fig. Faun. Germ. 93, 21.

Dull green or greyish-green, often with two small round spots on the posterior portion of the thorax; a wide central line on the scutellum, the clavus and a large triangular spot on the corium, widest posteriorly, brown; internal angle of cuneus also of the same colour. Head and thorax shining, punctured. Elytra dull, covered with fine golden hairs. Legs more or less brown. Thighs spotted. Antennæ brown.

Length 4 lines.

Common on *Ononis*, &c., in summer.

Easily distinguished from our other green species by the thick third and fourth joints of the antennæ.

11. *alpestris*, Mey. Fig. Ent. Month. Mag. vol. iv. pl. i. fig. 3.

Elongate green, clothed with fine black hairs. Tarsi and antennæ, except the basal joint, brown. Head, front of thorax and scutellum paler.

Length 5 lines.

Burton-on-Trent and Gibside.

Longer and narrower than its allies, and distinguishable by the long apical joint to the antennæ.

12. *bipunctatus*, Fab.

Green or brownish-green, clothed with short black hairs, and with occasional paler ones; thorax finely

punctured and wrinkled, with two small round black spots in front. Elytra sometimes with one or two obscure brownish longitudinal lines near the apex; cuneus pale; membrane black, the nerves pale; antennæ green, darker towards the apex.

Length  $3\frac{1}{2}$  lines.

Very common by sweeping, &c.

#### RHOPALOTOMUS.

1. *ater*, Linn. Fig. Doug. & Scott, Brit. Hem. pl. xiv. fig. 7.

Entirely black, or black with red legs, or with the thorax, and head at the base, also red. Thorax punctured, and transversely rugose posteriorly. Elytra covered with very fine depressed greyish hairs. Membrane dusky black. Antennæ: second joint club-shaped, densely pubescent.

Length 3 lines.

Common by sweeping, &c. among nettles.

#### CAPSUS.

1. Cuneus red, with apex black.. .. . *lanarius*.  
2. Entire insect black, with the scutellum sometimes red .. *scutellaris*.

1. *lanarius*, Linn. Fig. Dougl. & Scott, Brit. Hem. pl. xiv. fig. 8.

= *capillaris*, Dougl. & Scott, &c.

Black or reddish-ochreous, deeply punctured; the cuneus, with the exception of the black apex and interior basal angle, always red; in the black variety the corium is sometimes pale at the base, and the thorax round its margins. Legs with the thighs black at the base, reddish at the apex; tibiæ red, hind pair with a dark-brown line exteriorly near the base. Antennæ black, third and fourth joints paler, and sometimes the middle of second.

Length 3—4 lines.

Common by sweeping in summer.

2. *scutellaris*, Fab.

Entirely black, or with the scutellum bright red, very deeply and somewhat rugosely punctured. Scutellum shining and impunctate.

Length  $2\frac{3}{4}$  lines.

Very rare; by beating and sweeping. Dartford, Rei-

gate, East Dereham and Woolmer Forest. July and August.

Smaller than preceding, more rugosely punctured, and with the scutellum impunctate and more shining.

#### BOTHYNOTUS.

1. *pilosus*, Boh. Fig. Ent. Ann. 1866. Frontisp. fig. 3.

♂ black-brown, covered with long brownish-grey hairs. Elytra punctured, brown, subtransparent, with the cuneus darker. Thorax very deeply and coarsely punctured. Legs pale brown.

♀ generally apterous, black. Thorax and elytra rugosely punctured. Head, legs, and first and second joints of antennæ, except the apex of the latter, red. Head generally with two brown frontal spots.

Length ♂ 3 lines; ♀  $2\frac{1}{4}$  lines.

Very rare; on the hills between Loch Long and Loch Lomond. July, 1865.

#### LIOCORIS.

1. *3-pustulatus*, Fab. Fig. Dougl. & Scott, Brit. Hem. pl. xv. fig. 4.

Black or luteous, shining, glabrous; in the black var. with the head, except just above the mouth, a dorsal line to the thorax widening in front, the scutellum, a very small spot behind each shoulder, a wide band near the middle of the corium, a very small spot on each just above the angle of the membrane and the cuneus, except at the base and apex, flavous or reddish-yellow. Membrane dusky, with a clear spot below the apex of the cuneus. Legs pale, two rings on each thigh; the base and apex of each tibia, and a ring below the base, as well as the apex of tarsi, black. Antennæ black; base of the first joint, middle of second, and the third and fourth, brownish.

In the pale variety, a spot in the front of the head, a spot at each posterior angle of thorax, a wide band behind the middle of the corium, the base and apex of cuneus, and the markings on the legs, as in the dark form, are alone black. Beneath black, with the sides widely pale. Antennæ with the apex of second joint narrowly black.

This very pretty species varies so much that it is useless to attempt to give all its varieties; two of the more usual ones are above given.

Length  $2\frac{1}{2}$  lines.

Very common by sweeping amongst nettles, &c.

## DICHROOSCYTUS, Fieb.

1. *rufipennis*, Fall. Fig. Dougl. & Scott, Brit. Hem. pl. xv. fig. 8.

Head and thorax green. Scutellum more or less orange-coloured. Elytra blood red, with the lateral margins narrowly green. Membrane slightly dusky, nerves red. Beneath: legs and antennæ green, the latter reddish towards the apex.

Length 3—3 $\frac{1}{4}$  lines.

On fir trees; not rare.

## PÆCILOSCYTUS.

- I. Corium unicolorous, without flavous markings.

a. Insect depressed, corium covered with golden hairs all over .. .. . *nigritus*.

b. Insect very convex, corium variegated with golden hairs in patches .. .. . *Gyllenhalii*.

- II. Corium with bright flavous markings .. .. . *unifasciatus*.

1. *nigritus*, Fall. Fig. Dougl. & Scott, Brit. Hem. pl. xiv. fig. 9.

Black, clothed with adpressed, bright golden pubescence. Cuneus pale, a spot on its exterior margin near the apex black; membrane black, the nerves flavous. Legs black. Tibiæ with pale bars.

Length 2 $\frac{1}{2}$  lines.

By sweeping on *Stachys*, &c.; Mickleham and elsewhere.

2. *Gyllenhalii*, Fall. Fig. Dougl. & Scott, Brit. Hem. pl. xv. fig. 1.

Short, oval, convex. Black, variegated with small spots of golden pubescence. Posterior margin of thorax very narrowly, apex of scutellum, margins of the elytra, and the entire cuneus, reddish. Legs: femora brown, with the base and a ring near the apex pale; tibiæ brown, paler at the apex; apical joint of the tarsi black. Antennæ yellowish-red; base of first joint, apex of second, third and fourth, brown.

Length 1 $\frac{1}{2}$  line.

Common by sweeping, especially on *Galium*.

3. *unifasciatus*, Fab. Fig. Dougl. & Scott, Brit. Hem. pl. xv. fig. 6.

Black, covered with short golden deciduous pubescence;

a spot on the head near each eye, the extreme basal margin of the thorax, the apex of the scutellum and the corium, with the exception of an irregular patch above the apex, flavous. Cuneus flavous, with a red patch inwardly and a black patch outwardly, the black patch extending a certain distance across the red; extreme basal inner angle black. Membrane dusky brown; nerves pale. Legs: femora brown; tibiæ paler; extreme apices black. Antennæ brown; third and fourth joints and apex of second darker.

Length 3—3½ lines.

Not uncommon by sweeping, and widely distributed.

#### HADRODEMA.

1. *pinastri*, Fall. Fig. Hahn, Wanz. Ins. ii. fig. 173.

Testaceous, finely pubescent, deeply punctured; callosities of thorax brown or black; membrane dusky; femora with two narrow bands, or a few spots, red-brown; tibiæ with occasional red-brown spots.

Length 2½ lines.

On fir trees. Reigate, Weybridge, &c.

Varies much in colour—sometimes being nearly black.

#### PLESIOCORIS.

1. *rugicollis*, Fall. Fig. H.-Seff. Wanz. Ins. iii. fig. 299.

Yellowish-green, thorax posteriorly and the elytra brighter green; margins of the latter paler; disk of the former transversely rugose. Membrane transparent; nerves green. Antennæ near the apex and tarsi black.

Length 2¾ lines.

On willows. Coast of Lancashire and Deal.

Not very unlike *Lygus pabulinus*, but flatter, with much shorter antennæ and transversely rugose thorax.

#### LYGUS.

I. Species green; thorax not coarsely and deeply punctured.

A. Hind thighs very elongate; spines of tibiæ pale and scarcely apparent .. .. *pabulinus*.

AA. Hind thighs not very elongate; spines of tibiæ black.

B. Elytra with a black transverse spot above the membrane .. .. *contaminatus*.

BB. Elytra without a black spot above the membrane.

a. Extreme apex of cuneus not black .. *lucorum*.

b. Extreme apex of cuneus black .. *spinole*.

II. Species not green; thorax in some species coarsely and deeply punctured.

A. Species not orange red.

B. Species large and robust .. .. . *pratensis*.

BB. Species small.

C. Legs flavous; hind femora without brown rings, sometimes spotted .. .. . *pastinacæ*.

CC. Legs brownish or ochreous; hind femora with two brown rings.

a. Basal ring broader than apical; second joint of antennæ not longer than third and fourth together .. *Kalmii*.

b. Basal ring not broader than apical; second joint of antennæ longer than third and fourth together .. *cervinus*.

AA. Species orange-red .. .. . *rubricatus*.

1. *pabulinus*, Linn.

Bright green, clothed with fine pale hairs; apex of the second joint and the whole of the third and fourth joints of the antennæ brown. Thorax shallowly punctured.

Length  $2\frac{3}{4}$ —3 lines.

Common by sweeping nettles, &c.; easily distinguished from our other British species by its elongate form, unspotted elytra, and the fine pale spines on the tibiæ.

2. *contaminatus*, Fall.

Bright green, clothed with very fine pale hairs; a transverse spot on the corium above the membrane, the last two joints of the antennæ, the apex of the second, and the apex of the tarsi, brown. Membrane slightly dusky, with a darker spot at the apex of each cell, and a third below the apex of the cuneus.

Length 3 lines.

On birches, by sweeping, &c.

3. *lucorum*, Mey. Fig. Meyer, Caps. vi. fig. 2.

Bright green, third and fourth joints of the antennæ brown. Elytra often with a brownish mark just above the membrane. Membrane with a spot within the cell, a small spot below the apex of the cuneus, and another spot below it on the margin, darker.

Length  $2\frac{1}{2}$  lines.

Not common by sweeping.

4. *Spinolæ*, Mey. Fig. Meyer, Caps. i. fig. 2.

Closely allied to the preceding, but differing in being rather large, having the apex of cuneus black, the mem-

brane less spotted and the posterior femora with two distinct apical rings.

Length  $2\frac{1}{2}$  lines.

Commoner than the preceding by sweeping, &c.

5. *pratensis*, Fab. Fig. Dougl. & Scott, Brit. Hem. pl. xv. fig. 2.

Ochreous or ochreous-grey, with brown markings, exceedingly variable; thorax strongly punctured; elytra covered with fine grey pubescence. Scutellum transversely rugose, posterior femora with two dark rings near the apex; sometimes united into one broad black ring.

Var. *campestris*.

Of a greenish tint, scutellum more swollen and less rugose.

Length 3 lines.

Very common everywhere by sweeping, &c.

6. *pastinacæ*, Fall. Fig. Dougl. & Scott, Brit. Hem. pl. xv. fig. 5.

Short, oval, punctured and covered with a fine ochreous pubescence. Pale yellowish-green. Clavus, a spot on the interior angle of each corium, above the membrane, the extreme apex of the cuneus sometimes, the last two joints of the antennæ and the apex and base of the second, black. Legs pale, apex of the tarsi black.

Length 2 lines.

Common by sweeping, &c.

Varies much in the ground colour, also in the size of the spots, which are sometimes scarcely visible.

7. *Kalmii*, Linn. Fig. Halm, Wanz. Ins. i. fig. 109.

Oval, punctured, clothed with a fine greyish pubescence. Head ochreous, with an irregular brown spot in the middle. Thorax brown, with a pale dorsal line not reaching the anterior margin, and also with the thickened anterior margin itself, pale. Scutellum flavous, generally with a dark spot on the base. Elytra with the clavus, a broad band across the apex of the corium, and the apex of the cuneus, brown. Legs ochreous, middle pair of thighs with one brown ring; hind thighs with two brown rings near the apex. Apex of each tibia also brown. Antennæ brown.

Length  $2-2\frac{1}{2}$  lines.

Common on nettles, &c., by sweeping.



Varies much in colour. Thorax often pale, with only two spots, near the anterior tubercles, black. The band on the corium is often so indefinite as to be hardly discernible.

8. *cervinus*, H.-Scff. Fig. Wanz. Ins. fig. 617 (not good).

Ochreous or ochreous-brown, punctured and covered with fine ochreous hairs. Scutellum dark, with a spot on each side of the base, and the dorsal line posteriorly, pale. Elytra with a more or less distinct red-brown or brown band above the membrane, sometimes almost obliterated, being marked only by one or two brown spots above the interior angle of the cuneus. Apex of cuneus black. Legs pale, posterior femora with two narrow red or brown rings. Antennæ with the third and fourth joints, and apex of second, brown or black.

Length  $2\frac{1}{2}$  lines.

Common on limes, by beating.

9. *rubricatus*, Fall. Fig. Hahn, Wanz. Ins. i. fig. 80.

Elongate, oval. Orange-red, finely punctured, and clothed with fine greyish-ochreous hairs. Apex of cuneus rather darkened; membrane dusky, with darker markings. Antennæ with third and fourth joints dusky.

Length  $2\frac{1}{2}$ —3 lines.

Not uncommon on firs, &c.

#### CAMPTOBROCHIS.

1. *lutescens*, Schill. Fig. Dougl. & Scott, Brit. Hem. pl. xv. fig. 9.

= *punctulatus*, Fieb., Dougl. & Scott.

Short, oval, luteous-brown, very shining, glabrous and strongly punctured. Head, median line of scutellum and its lateral angles, sides of the elytra at the base, and the base and extreme apex of the cuneus, lighter; the clavus also is sometimes pale. Membrane clear and transparent, with very short rounded cells, dark within them. Legs pale; hind femora with a dark ring near the apex; tibiae with one or two darker rings. Antennæ pale; third and fourth joints, and apex of second, brown.

Length  $1\frac{1}{2}$ —2 lines.

Not uncommon by beating maples, &c.

## MONALOCORIS.

1. *flicis*, Linn. Fig. Dougl. & Scott, Brit. Hem. pl. x. fig. 2.

Finely pubescent, piceous or testaceous-brown. Head, anterior margin of thorax, legs and antennæ testaceous; apex of tarsi, third and fourth and apex of second joints of antennæ, black. Beneath black or pitchy-black; membrane slightly dusky.

Length 1—1½ line.

On brake (*Pteris*) and other ferns; common by sweeping.

## BRYOCORIS.

1. *pteridis*, Fall. Fig. Dougl. & Scott, Brit. Hem. pl. x. fig. 1 and 1\*.

Developed form.—Head, thorax, scutellum and clavus black. Corium pale, semitransparent, with a slightly darker band above the cuneus; membrane dusky, with lighter markings.

Length 1½—2 lines.

Undeveloped form.—Pale ochreous, with the exception of a brown spot on the middle of the head and the callosities of the thorax. Thorax in ♂ sometimes piceous. Apex of the tarsi, the third and fourth joints of antennæ, and apex of second, black. Surface very shortly pubescent. Thorax rugosely punctured.

Length 1—1½ line.

On brake and other ferns.

The developed form is very rare, and in shape somewhat like an *Anthocoris*. The undeveloped form is common and something like the former species, but has no membrane.

## PITHANUS.

1. *Märheli*, H.-Seff. Fig. Dougl. & Scott, Brit. Hem. pl. x. fig. 3.

Elongate, black; sides of the elytra and body and apical half of the basal joint of antennæ, flavous; legs red. Undeveloped form with only rudimentary wing cases.

Length 2—2½ lines.

Very common by sweeping, &c. in the undeveloped form; developed form exceedingly scarce.

## GLOBICEPS.

I. Elytra black, with four pale spots.

A. Apical joint of the antennæ more than half the length of the third; upper surface not pilose.

a. Larger, the pale spot at the base of the corium extending along the lateral margin to below the middle .. .. . *flavomaculatus*.

b. Smaller, the pale basal spot truncate posteriorly, not extending along the lateral margin .. .. . *fulvipes*.

AA. Apical joint of antennæ not more than a quarter so long as the third; upper surface pilose *4-notatus*.

II. Elytra without four pale spots.

a. Elytra pale whitish .. .. . *dispar*.

b. Elytra black, with the claval suture, and a short streak near the base, white .. .. . *ater*.

1. *flavomaculatus*, Fab.

= *selectus*, Fieb., Dougl. & Scott, &c.

♂ Elongate, black. Elytra each with a spot just below the base, and the cuneus (except the apex) ochreous; membrane blackish. Legs brownish-red. Antennæ black; basal joint red, third and fourth joints brown.

♀ Head very globose and shining. Elytra without membrane; apex of the cuneus rounded; second joint of the antennæ thickened considerably at the apex.

Length  $2\frac{3}{4}$  lines.

Not uncommon by sweeping, &c.

2. *fulvipes*, Scop.

= *flavomaculatus*, Fieb., Dougl. & Scott, &c.

Extremely like the preceding but smaller, and with the basal pale spot of the elytra truncate posteriorly, and not produced along the lateral margin. A very doubtful species.

Length  $2\frac{1}{2}$  lines.

Rare, by sweeping.

3. *flavonotatus*, Boh. Fig. Dougl. & Scott, Brit. Hem. pl. xii. fig. 1.

Wider than the preceding; black, pilose; back of the head with a pale carina; a triangular spot at the base of each corium, the extreme lateral margin and the cuneus, with the exception of a black band just above its apex, also flavous. Membrane blackish, with a white spot on each side below the apex of the cuneus. Legs orange-red,

generally with a brownish spot on each thigh. Antennæ black, basal joint and two apical joints reddish-yellow.

Length  $2\frac{3}{4}$  lines.

Common on oaks.

4. *dispar*, Boh. Fig. Ent. Month. Mag. vol. iv. pl. i. fig. 4, ♂ and ♀.

♂ Head, thorax and scutellum black; elytra whitish, with a broad brownish cloud across the apex; cuneus with the apex brown, membrane dusky; legs brownish-yellow. Antennæ black, first joint at the base yellowish, third and fourth brownish-yellow.

♀ Elytra undeveloped, without cuneus or membrane, white and semi-transparent. Second joint of antennæ much thickened at the apex.

Length  $1\frac{1}{2}$  line.

Leicester; at the roots of grass in damp places.

5. *ater*, Dougl. & Scott.

Black. Antennæ with the basal half of the third joint yellow. Elytra: corium pitchy-black at the base, within the anterior margin a short whitish streak; claval suture very narrowly whitish, posterior margin black, cuneus black, base next the inner angle with a pale brownish-white patch; membrane pale brown; legs brownish-yellow.

Length  $1\frac{3}{4}$  line.

A single ♀ taken at Leicester.

I do not know this species, and therefore give extracts from Messrs. Douglas and Scott's description.

#### CYLLOCORIS.

1. *histrionicus*, Linn. Fig. Dougl. & Scott, Brit. Hem. pl. xii. fig. 3.

Elongate. Head black, a spot on the neck pale. Thorax black, with the base and apex flavous; or orange-yellow, with a black spot on each side in front, not quite joining each other in the middle, and not touching the anterior margin; sides and base deeply sinuate. Scutellum black at the base, flavous at the apex. Elytra orange-yellow, corium widely pale along the claval suture, base of cuneus pale; legs orange-coloured, bases of the thighs paler. Antennæ: first joint pale, rest black. Undersides of head, thorax and breast black. Abdomen pale, with the base and a band near the apex brown.

Length  $3\frac{1}{2}$  lines.

On oaks, by beating in summer; common.

## EROTICORIS.

1. *rufescens*, Burm. Fig. Dougl. & Scott, Brit. Hem. pl. xiv. fig. 6.

Subelongate, widened posteriorly, brownish-red; head rather darker than the thorax. Elytra with a triangular patch at the base of the corium and a spot at the apex white. Cuneus brown, base narrowly pale; membrane large, smoky, with a whitish patch below the apex of the cuneus. Legs and antennæ red, the apical half of the first joint and base of the second paler, extreme apex of fourth whitish.

Undeveloped form like the above, without cuneus or membrane.

Length 2 lines.

On *Erica*. Reigate Heath, Woking, Plumstead, Thorn Moor (Yorkshire).

Developed form very scarce.

## CAMPYLONEURA.

1. *virgula*, H.-Sef. Fig. Dougl. & Scott, Brit. Hem. pl. xii. fig. 10.

Head black-brown, slightly paler posteriorly. Thorax white, with a wide yellow-brown stripe across the middle. Scutellum ochreous. Elytra subtransparent, with fine yellow hairs; extreme lateral margin very narrowly black. Cuneus yellow; apex blood-red; legs ochreous. Antennæ: first joint red, second brown, third brown on its basal half, apex pale; fourth pale, apex and base narrowly brown. ♀ with a round spot on each side of the body near the apex black.

Length 2 lines.

On oaks, by beating, in summer; not rare.

## ÆTORHINUS.

1. *angulatus*, Fall. Fig. Dougl. & Scott, Brit. Hem. pl. xi. fig. 4.

Elongate, green, shining, covered with black hairs; thorax with the sides sinuate, the posterior angles rather produced and black. Elytra with the suture below the scutellum very narrowly black; the lateral margin, just above the cuneus, is of a deeper green than the rest of the insect. Membrane very slightly dusky, with a dark spot

a little distance below the apex of the cuneus; inner margin black. Legs with the tarsi and the extreme base of each tibia black. Antennæ brownish; first joint white at the extreme base and apex, then narrowly black, leaving the middle brown; second joint black at the extreme base and apex.

Length  $2\frac{3}{4}$  lines.

Common on alders, in August and September.

#### CHLAMYDATUS.

#### SPHYROCEPHALUS, Dougl. & Scott.

I. Head and thorax black.

a. Legs pale testaceous .. .. *ambulans*.

b. Legs green or brown .. .. *caricis*.

II. Thorax pale .. .. *insignis*.

1. *ambulans*, Fall. Fig. Dougl. & Scott, Brit. Hem. pl. xi. fig. 5.

♂ Elongate; head, thorax and scutellum black; elytra ochraceous, the clavus infusate, apex of lateral margin darker; cuneus margined with brown; membrane slightly dusky; legs testaceous; antennæ black, slightly paler towards the apex; body black.

♀ Black, generally with undeveloped elytra, short and stout; legs testaceous; antennæ black, base of third joint pale.

Length ♂  $2\frac{1}{2}$  lines; ♀  $1\frac{3}{4}$  line.

Not uncommon; by sweeping in damp places.

2. *caricis*, Fall. Fig. Meyer. Capsidæ, tab. v. fig. 2 (*elegantulus*).

= *elegantulus*, Dougl. & Scott.

Head, thorax and scutellum black; elytra dull green, inwardly brown, covered with short, adpressed, ochreous hairs; membrane slightly dusky; legs in the ♂ brownish-testaceous, in ♀ green. Antennæ black; ♂ with a pale spot on each side of the head; ♀ brighter in colour than the ♂.

Length 2 lines.

Rare; in damp places, by sweeping; Wimbleton, Woking, Newcastle, Dorsetshire.

3. *insignis*, Dougl. & Scott. Fig. Ent. Month. Mag. vol. ii. p. 247 (woodcut).

Flavous; head black, with a greyish spot near each

eye. Elytra yellowish-grey; membrane hyaline; nerves yellow. Antennæ black; first joint pale at the apex, second joint very narrowly whitish at the apex.

Length  $1\frac{1}{4}$  line.

Esher; two specimens, in September.

#### BYRSOPTERA.

1. *rufifrons*, Fall. Fig. Dougl. & Scott, Brit. Hem. pl. xi. fig. 6.

♂ Elongate, winged; ♀ apterous, body suboval.

♂ Dark-brown, shining, clothed with deciduous golden hairs; cuneus flavous; membrane slightly dusky; legs clear testaceous. Antennæ: first joint pale, darker at the base; second joint black; third and fourth pale, slightly dusky towards the apex.

♀ Head red; thorax as in the ♂; elytra convex and wide, without cuneus or membrane, rounded at the apex, and not reaching to the apex of the body; legs clear testaceous. Antennæ pale testaceous; first joint black, second black at the apex.

Length ♂ 2 lines; ♀  $1\frac{1}{2}$ — $1\frac{3}{4}$  line.

On nettles, &c. by sweeping; not uncommon.

#### SYSTELLONOTUS.

1. *triguttatus*, Linn. Fig. Dougl. & Scott, Brit. Hem. pl. xii. fig. 2.

♂ Elongate; head and thorax black or blackish-brown; base of elytra and scutellum of the same colour; rest of the corium and clavus chocolate-brown, with a semilunate spot in the middle of the clavus, a transverse spot at the apex of the corium, and a second above the middle snow-white and shining; cuneus darker brown, membrane fuscous. Legs and antennæ brown.

♀ Much like an ant in shape, paler brown, with only rudimentary elytra, which have a snow-white band across the middle. Abdomen darker. Antennæ and legs reddish-brown; base of the second joint of the former pale.

Length 2 lines.

Found running on the ground. Chobham, Littlehampton, &c., &c.; not rare.

## DICYPIUS.

- I. Thorax largely and rugosely punctured .. .. *globulifer*.  
 II. Thorax not largely and rugosely punctured.  
 A. Tibiæ spotted .. .. *annulatus*.  
 AA. Tibiæ not spotted.  
 B. Third joint of antennæ not twice as long as  
 apical joint .. .. *pallicornis*.  
 BB. Third joint of antennæ twice as long as the  
 apical.  
 a. Underside of head, thorax and breast more  
 or less piecous .. .. *errans*.  
 b. Underside of head, &c. pale .. .. *pallidus*.

1. *globulifer*, Fall. Fig. H.-Seff. Wanz. Ins. iii. fig. 271  
 (*alienus*).

Sub-ovate, elongate; head and thorax black, with a spot on each side of the former near the eye, and the front margin and dorsal line of latter, pale; the thorax sometimes is entirely greyish-ochreous, with the callosities black; surface of head smooth and shining, surface of thorax deeply and rugosely punctured. Elytra greyish-ochreous, or in some nearly black, clothed with brown hairs; sides and cuneus somewhat paler; apex of cuneus sometimes darker; membrane dusky. Tibiæ spotted with black. Antennæ black; extreme apex, and base of first joint, white.

Length 2 lines.

Lowestoft.

2. *annulatus*, Wolff. Fig. H.-Seff. Wanz. Ins. iii. fig. 270.

Greyish; a good deal smaller than the preceding, covered with long scattered black bristles; head black, with a white spot on the inner margin of each eye. Thorax with the front margin and dorsal line white, with several round brown spots in front. Scutellum brown, spotted with white. Elytra nearly unicolorous; the apices of the corium and clavus slightly darker. Legs with the thighs and tibiæ spotted with round brown spots. Antennæ black, with the base and apex of the first, second and third joints, and a band across the middle of the second, white: beneath black or pale.

Length  $1\frac{1}{4}$  line.

Common on *Ononis*, and generally distributed.



3. *pallicornis*, Fieb. Fig. Dougl. & Scott, Brit. Hem. pl. 12, fig. 5.

Pale ochreous or straw-coloured, with long scattered hairs; head with a more or less interrupted brown stripe on each side, between the eyes. Thorax more or less spotted with brown in front. Elytra clothed with long brownish hairs; apex of cuneus darker; legs straw-coloured; hind thighs with very indistinct spots. Antennæ pale; first joint slightly darker; apical joint longer in proportion to the third than in the following species.

Length 2 lines.

On foxgloves, &c., by sweeping. The undeveloped form, which is the common one, has no membrane or cuneus, and is rather smaller.

4. *pallidus*, H.-Scff. Fig. H.-Scff. Wanz. Ins. iii. fig. 269.

Elongate, very pale ochreous, first joint of the antennæ red; second at the apex, and the third and fourth, brownish; corium sometimes with a black spot just above the cuneus; the apex of cuneus occasionally, and the nerves of the membrane, brown. Thighs with very small black or brown spots, beneath pale.

Length  $2\frac{3}{4}$  lines.

By sweeping in damp places; not rare.

Very like the following, but differs in the thicker antennæ, and the paler colour especially of the underside; otherwise it might well pass as a variety.

5. *errans*, Wolff. Fig. Dougl. & Scott, Brit. Hem. pl. xii. fig. 4.

Elongate, brown or ochreous; head with the sides, and generally two stripes on the vertex, darker. Thorax with long hairs, and with the sides underneath and often the posterior angles dark brown. Elytra finely pubescent; corium with its extreme apical angle, and a spot above the cuneus, brown; there is also often an elongate brown streak above the angle of the membrane; membrane with the nerves and a transverse streak below the apex of the cuneus red or brown; thighs spotted with black. Antennæ first joint red, the rest more or less brown, the base of the third narrowly pale. Underside of head, thorax and breast brown or reddish; body ochreous or fuscous.

Length  $2\frac{3}{4}$  lines.

By sweeping on nettles, &c.; common.

## MACROLOPHUS.

1. *nubilus*, H.-Seff. Fig. Dougl. & Scott, Brit. Hem. pl. xii. fig. 6.

Elongate, bright tender green, densely clothed with ochreous hairs; basal joint of the antennæ, eyes and a stripe from the eye to the thorax, and the apex of the tarsi, black; membrane hyaline, clouded with darker markings, nerves bright green.

Length  $2\frac{1}{4}$  lines.

On *Stachys sylvatica*; not common.

## MALACOCORIS.

1. *chlorizans*, Block. Fig. Dougl. & Scott, Brit. Hem. pl. xii. fig. 7.

Very pale, almost transparent green, covered with long fine yellowish hairs; head and thorax unspotted; elytra marbled with darker green; membrane somewhat milky, cells with a large green spot in each; antennæ pale, the extreme base of the second joint and the underside of the first black.

Length 2 lines.

Not uncommon on hazel in August and September.

## PILOPHORUS.

- a. Claval band of the elytra, situated well above the posterior band of corium .. .. . *clavatus*.  
 b. Claval band uniting the posterior bands of corium .. *bifasciatus*.

1. *clavatus*, Linn., nec Dougl. & Scott.

Brown; head and thorax with a bronzy tint; scutellum with a patch of silvery hairs on each side, and one at the apex. Elytra with a scattered golden pubescence; corium with two silvery bands, one above the middle, the other below; base of the cuneus also with a narrow silver band inwardly; clavus with a narrow silvery band just above the apex, but situated well above the bands of the corium. Legs and antennæ reddish-brown; second joint of latter clavate and darker at the apex; third and fourth joints with the bases pale.

Length 2 lines.

On willows, &c.; Woking, Lewisham, &c.

2. *bifasciatus*, Fab. Fig. Dougl. & Scott, Brit. Hem. pl. xi. fig. 8.

= *cinnamopterus*, Dougl. & Scott.

= *perplexus*, Dougl. & Scott.

So closely allied to the former that the differences only need be pointed out. The head and thorax are without the bronzy tint; the second joint of the antennæ is more curved and less regularly clavate. The elytra are devoid of the scattered golden pubescence; the band across the clavus is situated between the bands of the corium so as to unite them; besides these characters the insect is narrower.

Length 2 lines.

On oaks, firs, &c.; often in company with *Formica rufa*.

#### HALTICUS.

a. Head and thorax flavous .. .. . *luteicollis*.

b. Head and thorax black .. .. . *pallicornis*.

1. *luteicollis*, Panz. Fig. Dougl. & Scott, Brit. Hem. pl. xxi. fig. 1.

Shining, head and thorax flavous; the latter narrowly darker posteriorly. Elytra black, much widened posteriorly; smooth, with a fine grey pubescence. Membrane dusky black. Femora dark brown, with the apices pale; tibiæ and tarsi pale; the base of the posterior ones darker; apical joint of the tarsi black. Antennæ very long, flavous; the extreme apex of the second joint black.

Length  $1\frac{1}{4}$  line.

On *Galium*, &c.; Stroud, S. Wales, &c.

2. *apterus*, Linn. Fig. Hahn, Wanz. Ins. i. fig. 61.

= *pallicornis*, Dougl. & Scott.

Black, shining, covered with a short grey, rather scattered pubescence. Membrane blackish. Femora black, the apices flavous; tibiæ and tarsi pale, apex of latter black. Antennæ flavous fuscous towards the apex.

Length  $1\frac{1}{2}$  line.

By sweeping, &c.; Darenth, Reigate, Headley, &c. The developed form is rather rare.

#### STIPHROSOMA.

a. Black, with head and legs red .. .. . *leucocephalum*.

b. Ferruginous, pale .. .. . *luridum*.

1. *leucocephalum*, Linn. Fig. Dougl. & Scott, Brit. Hem. pl. xxi. fig. 2.

Head very wide, reddish-yellow, smooth, shining, very finely and remotely punctured. Thorax deeply punctured. Elytra finely grey pubescent. Legs yellow, finely and densely hairy; tarsi fuscous. Antennæ: first joint yellow, rest black.

Length  $1\frac{3}{4}$ —2 lines.

By sweeping; occasionally; Scarborough, Reigate, Mickleham, &c.

2. *luridum*, Fall. Fig. H.-Seff. Wanz. Ins. iii. fig. 312.

Ochreous or ferruginous; very short and convex, and covered with a dense ochreous pubescence. Head shining. Thorax rugosely punctured. Scutellum smooth, impunctate. Membrane dusky. Legs pubescent. Antennæ fuscous; apex of first joint ochreous.

Length  $1\frac{3}{4}$ —2 lines.

By sweeping; Weybridge, Esher, &c.

#### HETEROCORDYLUS.

- a. Legs with the tibiæ red; second joint of antennæ in ♀ not incrassated.. .. *tibialis*.  
 b. Legs entirely black; second joint of antennæ in ♀ strongly incrassated .. .. *unicolor*.

1. *tibialis*, Hahn. Fig. Hahn, Wanz. Ins. i. fig. 66.

Black, covered with short, deciduous, golden, scale-like pubescence, and with very fine, short, grey hairs. Thorax transversely rugose; elytra in the male with the sides subparallel; in the ♀ diverging posteriorly; femora black, reddish-yellow at their extreme apices; tibiæ reddish-yellow, dusky at the base and apex. Antennæ black; basal joint in ♀ shorter than in ♂. Membrane dusky, nerves brown.

Length  $2\frac{1}{4}$ — $2\frac{1}{2}$  lines.

Common on *Spartium scoparium*. June and July.

2. *unicolor*, Hahn. Fig. Hahn, Wanz. Ins. ii. fig. 179.

Entirely black, covered with short, whitish, scale-like pubescence, and with very fine, short, greyish hairs. Membrane nearly black, with a whitish spot below the apex of the cuneus; second joint of antennæ in ♂ slightly, in ♀ strongly incrassated.

Length 2— $2\frac{1}{4}$  lines.

On *Genista*, &c. ; not common ; Isle of Wight ; Northumberland, Wales, &c.

## ORTHOCEPHALUS.

1. Legs black, margin between the clavus and corium  
ochreous.. .. .. .. .. *coriaceus*.  
2. Legs with the tibiae red. Elytra entirely black .. *saltator*.

1. *coriaceus*, Fab. Fig. Hahn, Wanz. Ins. ii. fig. 181  
(*pilosus*).

= *mutabilis*, Dougl. & Scott.

Black, covered with long black hairs and a short fragmentary golden deciduous pubescence. Elytra with the suture between the clavus and corium ochreous. Membrane dusky ; cells and a wide margin round them paler, the paler portion often with several small, round, dark spots. ♀ undeveloped.

Length  $2-2\frac{1}{4}$  lines.

By sweeping ; Chobham, Weybridge, &c.

2. *saltator*, Hahn. Fig. Dougl. & Scott, Brit. Hem. pl. xiv. fig. 2 (form *brachypt.*).

Black, longer and not so densely hairy as the preceding, but with the pubescence of a similar nature. Entirely black above. Tibiæ reddish-yellow, except at the apex. Membrane entirely fuscous, with a faint pale spot below the apex of the corium. ♀ undeveloped.

Length  $2\frac{1}{4}-2\frac{1}{2}$  lines.

Commoner than the preceding ; by sweeping. Widely distributed.

## LOXOPS.

1. *coccineus*, Westerh. Fig. Meyer, Capsidæ, pl. iv. fig. 5 (unnatural).

Orange-red, covered with scattered yellowish hairs ; sides of the thorax broadly red, or red-brown. Scutellum with a pale spot on the disk and one on each side of the base. Elytra orange-red or red-brown, more or less variegated with pale spots. Membrane slightly dusky ; nerves red. Antennæ and legs orange-yellow ; posterior thighs and basal joint of antennæ red ; second joint twice as long as the third and fourth together.

Length 2 lines.

On ash trees, by beating ; August and September.

## ORTHIOTYLUS.

- I. Elytra without black hairs.
- A. Species brownish-grey, with yellow markings .. *bilineatus*.
  - AA. Species green.
    - B. Cell nerves of membrane green.
      - C. First joint of antennæ black beneath .. .. *stricornis*.
    - CC. First joint of antennæ not black beneath.
      - D. Apical joint of antennæ not nearly half so long as the third .. .. *prasinus*.
    - DD. Apical joint of antennæ half as long as, or nearly half as long as, the third.
      - a. Smaller, elytra very thin and diaphanous *diaphanus*.
      - b. Larger, elytra not thin and diaphanous.. *nassatus*.
  - BB. Cell nerves of membrane yellow or pale.
    - C. Apical joint of antennæ half as long as third.. *flavineris*.
  - CC. Apical joint of antennæ not nearly half as long as third .. .. *tenellus*.
- II. Elytra with black bristly hairs, mixed with the paler pubescence.
- A. Cells of membrane green .. .. *flavosparsus*.
  - AA. Cells of membrane not green.
    - A\*. Species greenish-grey .. .. *Saundersi*.
    - A\*A\*. Species green.
      - B. Third and fourth joints of antennæ together not so long as second .. .. *Douglasi*.
    - BB. Third and fourth joints of antennæ longer than second.
      - C. Rostrum not reaching the posterior coxæ; posterior thighs not much thickened.
      - D. Second and third joints of antennæ subequal, not short and robust. Found on the furze and broom on heaths, &c.
        - a. Head not very wide, not nearly so wide as the base of the thorax .. .. *concolor*.
        - b. Head very wide, nearly as wide as the base of the thorax .. .. *chloropterus*.
    - DD. Second joint of antennæ decidedly longer than third; short and stout; found in salt marshes.. *rubidus*.
    - CC. Rostrum reaching beyond the posterior coxæ; posterior thighs much thickened .. .. *crictorum*.

1. *bilineatus*, Fall. (Gen. *Ætorhinus*, Dougl. & Scott.)

Greyish-brown; covered with a short pale pubescence. Head yellowish, with the dorsal line and a spot in front brown. Thorax dark brown in front and narrowly so at the sides, paler posteriorly; sides slightly sinuate. Scu-

tellum yellow, with a triangular spot in the middle brown. Elytra greenish-brown; the clavus brown, except along its outer margin; corium slightly paler at the base. Legs greyish-yellow. Antennæ black; second joint more or less pale.

Length  $2\frac{1}{4}$  lines.

Leicester, by sweeping, and Invercanny, Scotland.

2. *striicornis*, Kirsch.

Pale and somewhat transparent green, clothed with fine ochreous hairs; membrane pellucid, sometimes with a pinkish iridescence; the nerves bright and constant green. Antennæ rather shorter than in most of the species; first joint beneath with a black longitudinal streak, third joint not quite half as long as the second, apical joint a little more than half the length of the third.

Length  $2-2\frac{1}{3}$  lines.

On oaks; Reigate, Chobham, also at Eltham.

3. *prasinus*, Fall.

= *viridinervis*, Dougl. & Scott.

= var. ? *ochrotrichus*, Fieb.

Similar to the preceding in colour and pubescence, but rather more elongate. Antennæ much longer; third joint three-quarters as long as the second, apical joint not nearly half as long as the third, first joint not marked with black below.

Length  $2\frac{1}{2}$  lines.

Common by sweeping and on various trees.

4. *diaphanus*, Kirsch.

Allied to the two preceding species, but more like *striicornis* in shape; pale green, very finely and closely covered with ochreous hairs. Elytra very thin and diaphanous; cell nerves of the membrane bright green. Antennæ shorter than in either of the preceding and stouter; third joint three-quarters as long as second, fourth almost half the length of the third; apex of the third and the whole of the fourth brown or black.

Length 2 lines.

Lee and Eltham; August.

5. *nassatus*, Fab. Fig. Dougl. & Scott, Brit. Hem. pl. xi. fig. 3.

Much larger and more robust than any of the preceding, green; becoming yellow on the head, scutellum and front of thorax after death; covered with fine ochreous hairs; ♂ subelongate, sides of the elytra subparallel; ♀ rather more oval. Legs green; tibiæ and tarsi black at the apex. Antennæ: first joint black or brown at the base, the rest ferruginous; second joint one and one-half times as long as third; third not quite twice as long as fourth.

Length 3 lines.

Common on alders; July and August.

6. *flavinervis*, Kirsch.

Very like the preceding, but rather shorter; green, head yellow, apex of the cuneus and the lateral margins of the elytra more or less of the same colour; membrane dusky; cell nerves yellow. Antennæ: first joint black, the rest ferruginous, darker towards the apex; second joint one and one-half times as long as third; third not quite twice so long as fourth.

Length  $2\frac{3}{4}$  lines.

On alders, with the preceding; July and August.

7. *tenellus*, Fall. Fig. Meyer, Capsidæ, pl. ii. fig. 3 (*angustus*).

= *angustus*, Dougl. & Scott.

Very pale and transparent ochreous-yellow, clothed with ochreous-brown hairs; membrane very slightly dusky. Eyes very prominent and black; second joint of the antennæ once and a quarter as long as the third and fourth together; apical joint not half as long as the third. Legs pale, with a greenish tint.

Length 2 lines.

On ash trees, not uncommon; Chobham, Reigate, Croydon.

8. *flavosparsus*, Sahlb.

= *prasinus*, Dougl. & Scott.

♂ Subelongate; ♀ suboval, green, sprinkled with small yellow spots, and clothed with black bristly hairs and occa-



sional irregular patches of white silvery ones; after death the spots are often quite invisible; membrane hyaline; cells and cell nerves bright green. Antennæ: second and third joints subequal; fourth about half the length of third.

Length 2 lines.

On *Chenopodium*. Very common on the sea coast.

9. *Saundersi*, Reut.

= *obsoletus*, Dougl. & Scott (*Tinicephalus*).

Grey; head, thorax and legs with more or less of a greenish tint; upper surface clothed with silvery-white hairs and also with stronger brown ones. Elytra pale grey, somewhat diaphanous; base of the cuneus paler; membrane very slightly clouded, cells and a 7-shaped mark below the apex of the cuneus darker. Antennæ more or less testaceous or greenish.

Length  $1\frac{1}{2}$ — $1\frac{3}{4}$  line.

On *Spartium*, *Ulex*, *Genista*, &c. Common near London.

10. *Douglasi*, Saund.

Green, the sides of the elytra somewhat brownish-yellow; surface clothed rather thickly with white pubescence, intermixed with black hairs; membrane dusky; nerves yellow. Antennæ testaceous-brown; third joint about half as long as the second; fourth a little more than half the length of the third.

Length 2 lines.

On *Spartium*, Woking Heath. Common, but very local, in July; probably overlooked elsewhere.

11. *concolor*, Kirsch.

♂ = *virescens*, Dougl. & Scott.

Rather dark green when mature, paler green when young, densely clothed with long black hairs, intermixed with occasional whitish ones; head generally more or less brown; cuneus in ♂ often yellowish; membrane very dusky, nerves pale. Antennæ brownish; third joint as long or almost as long as second; fourth not quite one-third as long as third.

Length 2 lines.

Very common on *Spartium*, generally distributed.

12. *chloropterus*, Kirsch. Fig. Ent. Month. Mag. vol. iv. pl. ii. fig. 3, ♂.

♂ = *bicolor*, Dougl. & Scott.

Green, clothed with black hairs, intermixed with occasional white silvery ones; in the ♂ the head, thorax, scutellum, clavus and inner apical angle of corium are grey-brown; head very wide across the vertex; thorax shorter and wider than in most of the species, membrane dusky, iridescent. Antennæ: third joint as long as the second; fourth about a third the length of the third.

Length 2 lines.

On furze, &c.; common and generally distributed.

The ♀ is somewhat like *concolor*; but may be distinguished by its much wider head, shorter form and smaller size, and also by the yellow colour of the head.

13. *rubidus*, Put. Fig. Ann. Soc. Franc. 5th ser. iv. pl. vii. fig. 2.

Obscurely red or green (var. *Moncreaffi*), clothed with black hairs mixed with short silvery ones. In looking closely at the red specimens it will be seen that the ground colour of the surface is of a lurid pink, speckled all over with brighter red spots; the cuneus is of a deeper red, membrane slightly dusky, nerves pale. Antennæ: third joint four-fifths the length of second, fourth two-thirds as long as third.

Length  $1\frac{1}{2}$ —2 lines.

Portsmouth, on *Salicornia*, August to October, and by searching amongst *Arenaria maritima*, &c. at Worthing; not uncommon, but scarcely mature early in June—both vars.

14. *ericetorum*, Fall.

Bright green, somewhat shining, sides of the corium, the cuneus and the veins of the membrane yellow; after death the head, front of thorax and scutellum become of the same colour; surface clothed with black hairs, sides of the elytra with finer pale ones, membrane dusky; hind thighs much enlarged.

Length 2 lines.

Common on *Erica*, &c., by sweeping, and generally distributed.

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## Species dubia.

*obsoletus*, Dougl. & Scott, nec Fieb.?

After a careful examination of the type specimen (the only British one known), I came to the conclusion that it certainly did not belong to Fieber's species. I have, I regret to say, since had the misfortune to destroy this specimen, and therefore, under the circumstances, I fear I must leave the matter to be cleared up when more examples are found.

## HETEROTOMA.

1. *merioptera*, Scop. Fig. Dougl. & Scott, Brit. Hem. pl. xiv. fig. 5.

Bronzy-brown or black, shining, covered with depressed white and short upright blackish hairs; membrane black, with a white spot on each side below the apex of the cuneus. Legs clear flavous or green. Antennæ black, first joint thick, round and densely hairy; second much flattened and dilated, also densely covered with black hairs; third and fourth filiform, brownish, their bases pale.

Length  $2\frac{1}{2}$  lines.

Common on nettles, &c., by sweeping.

## ANOTHEROPS.

1. *setulosus*, Meyer. Fig. Dougl. & Scott, Brit. Hem. pl. xii. fig. 8.

♂ Subelongate; ♀ suboval. Head and thorax pale greenish-yellow, more or less covered with scattered stout black hairs; the former with a dorsal line and numerous round spots more or less confluent, the latter with a transverse spot below each callosity, the hind angles and a spot on each side of the base black. Scutellum same colour as the thorax, with the sides black and the base spotted with small black spots. Elytra dull greenish, finely punctured with black, and covered with a dense black pubescence; nerves pale and without hairs. Membrane dusky, nerves pale whitish. Legs greenish, thighs and tibiæ spotted with black; apices of latter and tarsi black. Antennæ: first joint spotted with black, rest more or less brownish.

Length 3 lines.

## HOPLOMACHUS.

1. *Thunbergi*, Germ. Fig. Dougl. & Scott, Brit. Hem. pl. xiii. fig. 3.

Ochreous-brown, covered with scattered black hairs and very fine brown punctures. Head ochreous, with a brown spot on each side between the eyes; thorax with the dorsal line and front margin pale; callosities dark brown; scutellum dark at the base; elytra with the nerves and margins pale whitish; membrane dusky; beneath banded with brown and white; thighs spotted; tarsi and extreme apex of tibiæ black; antennæ dusky at the apex.

Length 2 lines.

By sweeping, Birchwood, &c.

## MACROCOLEUS.

- I. All the tibiæ with strong black spines or spine-like hairs.
- A. Greyish-green or brownish-green, with soft white hairs intermixed with brown ones.
    - a. Smaller, elytra uniform in colour, without transverse band .. .. . *hortulanus*.
    - b. Larger, elytra pale greyish-green, with a wide darker transverse band .. .. . *molliculus*.
  - AA. Orange or greenish-yellow, covered with strong black bristly hairs, not mixed with pale ones .. .. . *tanaceti*.
- II. All the tibiæ not spiny (hind ones spiny in *Paykullii*).
- a. Black hairs of the elytra so disposed as to form irregular spots .. .. . *Paykullii*.
  - b. Black hairs of the elytra not so disposed .. *solitarius*.

1. *hortulanus*, Mey.

= *tanaceti*, Dougl. & Scott (*Oncotylus*).

= *sordidus*, Dougl. & Scott (*Macrocoleus*).

Brownish-green, head and thorax generally of a brighter green, clothed with brown hairs mixed with pale ones; base of the cuneus narrowly pale, membrane dusky, nerves pale, thighs spotted at the apex, tibiæ spiny.

Length  $1\frac{3}{4}$  line.

On *Ononis*, Reigate Hill, Headley Lane, &c.

2. *tanaceti*, Fall. (nec Dougl. & Scott).

♀ Suboval, golden or orange-yellow or greenish-yellow, densely covered with black bristly hairs, sparingly intermixed on the head and thorax with a few whitish ones. Membrane subpellucid, nerves golden yellow, surrounded by a dusky cloud, cells clouded. Beneath palely pubes-

cent, with a few bristly black hairs. Legs covered with black hairs. Tibiæ with strong black spines. Antennæ hairy.

Length 2 lines.

On *Tanacetum*, Chobham, August. Three specimens, ♀.

Closely allied to *molliculus*, but differs from it in colour and the absence of the dark band of the elytra, and the downy pubescence so characteristic of that species.

3. *molliculus*, Fall. Fig. Dougl. & Scott, Brit. Hem. pl. xii. fig. 9.

Greyish-green, densely clothed with brown hairs, intermixed with whitish ones. An irregular wide band across the centre of the corium, and the cuneus, except at the base, darker. Legs greenish-grey; tibiæ with fine black spines. Apex of tarsi black. Membrane slightly dusky; lighter near the apex of the cuneus, with a darker spot just below it.

Length  $2\frac{1}{4}$ — $2\frac{1}{2}$  lines.

On *Achillea*, *Tanacetum*, &c.; not rare.

4. *Paykullii*, Fall. Fig. Meyer, Capsidæ, pl. v. fig. 1 (*maculipennis*).

Green, very densely clothed with strong black hairs. Head, thorax and scutellum sometimes darker. Hairs on the elytra somewhat irregularly disposed in patches, so as to give them a spotted appearance. Membrane blackish; nerves and a spot below the apex of the cuneus white. This latter pale spot is crossed by a well-defined quadrangular black spot. Legs and antennæ densely hairy; posterior tibiæ with a few longer spine-like hairs.

Length  $1\frac{1}{2}$  line.

On *Ononis*; common where it occurs, but local.

5. *solitarius*, Meyer. Fig. Meyer, Capsidæ, pl. v. fig. 4.

Greyish-green. Head and thorax and scutellum sometimes brighter green; entire insect covered with black hairs. Nerves of the corium and the inner angle of the cuneus paler; membrane dusky; nerves and a space outside them clear and hyaline, the clear colour extending outwards in a narrow triangle towards the side. Legs densely hairy.

Length  $2\frac{1}{2}$ — $2\frac{3}{4}$  lines.

Rare; by sweeping on *Stachys*, &c.; Reigate.

## AMBLYTYLUS.

1. *affinis*, Dougl. & Scott. Fig. Dougl. & Scott, Brit. Hem. pl. xxi. fig. 3.

Elliptic, very pale-ochreous, clothed with black hairs, intermixed with white silvery ones. Nerves of the elytra somewhat paler. Antennæ: second and third joints subequal; fourth a little more than one-third as long as third. Thorax with the sides slightly margined.

Length 2 lines.

Occasionally by sweeping; Reigate, Eltham, &c.

## CONOSTEPHUS.

- I. Third joint of antennæ longer than second.. .. *salinus*.  
 II. Third joint of antennæ not so long as second .. *roseus*.

1. *salinus*, Sahlb. Fig. Sahlb. Hem. ryska Kærlen, pl. x. fig. 3, 4.

♂ Elongate; ♀ suboval. Grey. Head flavous, with a brown spot on each side of the base in the ♂. Thorax with the dorsal line and lateral margins flavous; sides and base sinuate. Scutellum with the base and dorsal line flavous. Elytra with the sides and cuneus pale. Membrane dusky. Legs ochreous. Antennæ subrobust, black or brownish; in ♀ sometimes paler at the base; beneath greyish; sides flavous; ♀ generally paler than ♂.

Length 2 lines.

Near Gravesend; on *Arenaria maritima*, &c.

2. *roseus*, Fall. Fig. Dougl. & Scott, Brit. Hem. pl. xiii. fig. 4.

♂ Brownish-grey; a triangular spot above the mouth, dorsal line and sides of the thorax, and dorsal line of scutellum and the sides of the elytra, pale-ochreous. Membrane dusky. Legs and antennæ brownish-grey.

♀ Head, thorax and scutellum greenish-yellow; dorsal line and sides of the thorax and scutellum paler. Elytra bright rosy-pink or orange-coloured internally; sides flavous. Membrane slightly dusky. Legs and antennæ greenish.

Length  $1\frac{3}{4}$  line.

Common, but local; by sweeping by roadsides, &c.

A variable species.

## ONCOTYLUS.

1. *decolor*, Fall. Fig. Dougl. & Scott, Brit. Hem. pl. xiii. fig. 2.

♂ Elongate; ♀ suboval. Grey or brownish-grey, very finely and shortly pubescent. Head luteous, with the sides brownish-grey. Scutellum luteous at the base. Elytra with the sides widely pale. Membrane dusky. Cuneus entirely pale. Legs and antennæ brownish-grey.

Length 2 lines.

Common, by sweeping grass, &c. in dry places.

## HARPOCERA.

1. *thoracica*, Fall. Fig. Dougl. & Scott, Brit. Hem. pl. xv. fig. 3.

♂ Subelongate. Head and thorax brownish-black, the dorsal line of the former and a short dorsal line at the base of the latter pale. Elytra brown, densely clothed with long grey hairs. Cuneus widely pale at the base. Legs testaceous. Apex of posterior femora, extreme apex of each tibia and the tarsi, black. Tibiæ with short black spines. Antennæ: second joint about the same length as first but thinner, and looked at from the side, curved and much thickened at the apex; third longer than first and second together, fourth about equal to the first.

♀ Wider and more ovate than ♂; pale greyish-yellow, sometimes black-brown. Head black, with the dorsal line and a transverse line on the vertex pale. Thorax with the callosities black, dorsal line narrowly pale. Scutellum black; apex pale. Apex of cuneus black; legs as in ♂. Antennæ: second joint not thickened and curved as in ♂ and rather longer.

Length  $3\frac{1}{2}$  lines.

Occasionally by sweeping and beating. Dr. O. M. Reuter says that in Finland it occurs on oaks.

## PHYLUS.

I. Insect pale, head black .. .. *melanocephalus*.

II. Head of the same colour as the rest of the insect.

A. Cuneus concolorous with the corium.

a. Insect pale golden .. .. *palliceps*.

b. Insect brown, black or dark brown .. *coryli*.

AA. Cuneus always reddish, corium sometimes

darker, sometimes lighter .. .. *avellanae*.

1. *melanocephalus*, Linn. Fig. Dougl. & Scott, Brit. Hem. pl. xi. fig. 7.

Elongate, yellow or reddish-yellow, covered with a fine golden pubescence. Head black. Thorax trapeziform. Elytra very long, parallel-sided. Membrane rather short, slightly dusky. Legs and antennæ pale; base of the first joint of the latter black.

Length  $2\frac{1}{2}$ —3 lines.

On oaks, &c., by beating.

2. *palliceps*, Fieb.

Like the preceding, but having the head of the same colour as the thorax.

Length  $2\frac{1}{2}$ —3 lines.

On oaks, &c., by beating.

I have great doubts as to the distinctness of the two above species, but never having seen any connecting links between the forms, I give them separately; they are found in the same places, often on the same trees.

3. *coryli*, Linn. Fig. Hahn, Wanz. Ins. i. fig. 16.

Black-brown, shining, clothed with very short grey hairs, similar in general form to the preceding but shorter. Elytra slightly punctured. Membrane dusky, with a white streak bordering the cuneus. Legs and antennæ testaceous.

Length  $2\frac{1}{2}$  lines.

On hazel; not rare.

4. *avellanae*, H.-Seff. H.-Seff. Wanz. Ins. vi. fig. 670.

Like the preceding but reddish-brown or paler. Cuneus always reddish-brown, so that in pale examples it is darker than the rest of the elytra, in dark ones lighter; two apical joints of antennæ also longer proportionately to the second than in *coryli*.

Length  $2\frac{1}{2}$  lines.

On hazel; common.

#### ATRACOTOMUS.

1. *mali*, Meyer, Fall. Fig. Dougl. & Scott, Brit. Hem. pl. xiv. fig. 4 (*magnicornis*).

Black-brown or reddish-brown, covered with fine grey hairs, and a dense golden deciduous pubescence. Membrane blackish, nerves and a spot below the apex of the



cuneus pale. Thighs black; tibiæ pale, with their extreme apex and sometimes the base more or less brown. Antennæ: first and second joints black, first short and thick, second long, much thickened and densely hairy, third and fourth filiform, together slightly longer than the second, pale, especially the base of the third.

Length  $1\frac{1}{2}$ — $1\frac{3}{4}$  line.

Occasional by beating, &c.

### PSALLUS.

- I. First and second joints of antennæ black, or partly so.
- a. ♂ Antennæ entirely dark; ♀ second joint dark at the base and apex .. *betuleti*.
  - b. ♂ Third and fourth joints of antennæ pale; ♀ second joint pale, apex black *ambiguus*.
- II. Antennæ entirely pale.
- A. Posterior thighs not spotted.
    - A\*. Cuneus entirely dark .. .. *obscurellus*.
    - A\*A\*. Cuneus pale at the base.
    - B. Species brown or red.
    - C. Thighs dark brown or black .. .. *variabilis*.
    - CC. Thighs bright red.
      - a. Smaller and broader, reddish; thighs short; pubescence golden .. .. *simillimus*.
      - b. Larger and narrower, brown; thighs long; pubescence white .. .. *quercus*.
    - BB. Species entirely pale flavous .. .. *Fieberi*.
    - AA. Posterior thighs spotted, sometimes entirely dark, but even then darker spots are visible.
      - B. Densely covered with long, thick, silvery-white deciduous hairs .. .. *Rotermundi*.
      - BB. Not covered with silvery hairs.
      - C. Cuneus entirely white.
        - a. Posterior thighs dark .. .. *salicellus*.
        - b. Posterior thighs not dark .. .. *sanguineus*.
      - CC. Cuneus not entirely white.
      - D. Colour obscure brown .. .. *lepidus*.
      - DD. Colour not obscure brown.
      - E. Thighs spotted more or less all over.
        - a. Cuneus widely pale at the base; narrowly at the apex .. .. *rosceus*.
        - b. Cuneus narrowly pale at the base; not pale at the apex .. .. *alnicola*.
    - EE. Thighs spotted only at the apex.
      - a. Apical joint of antennæ about half as long as the third .. .. *varians*.
      - b. Apical joint of antennæ considerably more than half as long as the third.. *Kirschbaumi*.

1. *betuleti*, Fall. Fig. H.-Seff. Wanz. Ins. vi. fig. 602  
(*ambiguus*).

= *ambiguus*, Dougl. & Scott.

♂ Subelongate, black, covered with golden deciduous hairs; base of the cuneus widely pale; membrane black, with a white spot below the apex of the cuneus. Thighs black, apices paler; tibiæ pale, with black spines, springing from small black spots, slightly darker towards the extreme apex.

♀ Reddish-ochreous; head, callosities and base of thorax, a triangular patch on each clytron, and the antennæ, with the exception of the middle of the second joint, more or less black.

Length  $2\frac{1}{2}$  lines.

On birches, &c.; not uncommon.

2. *ambiguus*, Fall.

= *obscurus*, Dougl. & Scott.

Smaller than the preceding; ♂ differing in having the third and fourth joints of the antennæ pale; the posterior tibiæ darker, and being slightly less elongate in shape.

♀ Differs in the duller colour, shorter form, in having the second joint of the antennæ pale, with the apex black, and the third and fourth luteous as in the ♂.

Length 2 lines.

On apple trees, &c.; not rare.

3. *variabilis*, Fall. Fig. Meyer, Capsidæ, pl. iii. fig. 4.

= *Whitei*, Scott.

♂ black, covered with short, golden, deciduous hairs, which are very easily rubbed off; cuneus narrowly pale at the base; ♀ head and thorax black; clytra ochreous, the lateral margins often reddish, with a large triangular spot on each above the cuneus; cuneus widely pale at the base; membrane dusky, with a pale spot below the cuneus. Antennæ pale; thighs black, apex of the first and second pairs pale.

A very variable species, varying especially in the darkness of the patches on the clytra, which are sometimes scarcely visible.

Length  $1\frac{1}{2}$  line.

On oaks; very common.

4. *obscurellus*, Fall.

Small and subelongate, brown, densely covered with whitish, deciduous, scale-like hairs; cuneus entirely

brown; thighs brown, apices paler; tibiæ ochreous, with rather slender black spines, the hind pair darkest. Antennæ pale, first joint brown.

Length  $1\frac{1}{2}$  line.

On firs, &c.; not rare.

5. *quercus*, Kirsch. Dougl. & Scott, Brit. Hem. pl. xiii. fig. 8.

Sub-elongate, brown. Head and thorax slightly darker. Insect covered with short, whitish, deciduous hairs. Cuneus reddish-brown; the base and extreme apex narrowly paler; thighs red, the posterior ones very long. Tibiæ pale ochreous, with strong black spines. Antennæ ochreous or reddish.

Length 2 lines.

On oaks, rare; Darent, &c.

6. *simillimus*, Kirsch.

Much smaller and shorter than the preceding; bright clear red. Head and thorax yellowish, deciduous pubescence of the elytra golden; base of cuneus very narrowly white. Membrane dusky, with a pale spot below the apex of the cuneus. Thighs bright red; tibiæ pale ochreous, with strong black spines. Antennæ pale ochreous.

Length  $1\frac{1}{2}$  line.

On maples; Box Hill, Mickleham, &c.

7. *Fieberi*, Dougl. & Scott.

Entirely pale ochreous-yellow; surface covered with rather long concolorous hairs; base of the cuneus widely transparent. Membrane hyaline. Thighs unspotted; tibiæ with black spines.

Length  $1\frac{1}{2}$  line.

Common at Shirley and Croydon, on palings; June and July.

8. *Rotermundi*, Scholtz. Fig. Dougl. & Scott, Brit. Hem. pl. xiii. fig. 6.

Short, oval, greyish-white, densely clothed with thick silvery hairs. Thorax with a black line across each callosity. Elytra with two longitudinal darker spots. Cuneus bright red, with the base widely pale. Femora spotted with brown; often red underneath. Tibiæ red at the base; apex of tarsi black.

Length  $1\frac{1}{2}$  line.

On white poplars; Reigate, Blackheath, &c.

9. *salicellus*, Mey. Fig. II.-Scff. Wanz. Ins. vi. fig. 605.

Pale whitish, surface with irregular patches of silvery hairs intermixed with black ones. Thorax and elytra more or less sprinkled with brown, puncture-like spots. Cuneus white. Membrane dusky, with a pale spot below the apex of the cuneus; a darker spot below it, and then another paler one. Thighs spotted, posterior ones dark brown. Tibiæ and antennæ whitish, the former with strong, black spines.

Length  $1\frac{3}{4}$  line.

On hazel, &c.; not rare.

10. *sanguineus*, Fab. Fig. II.-Scff. Wanz. Ins. iii. fig. 226.

= *querceti*, Fall.

= *dilutus*, Dougl. & Scott.

Shorter than the preceding and less graceful in shape, with much shorter antennæ, and with pale hind thighs.

Var. *sanguineus*. Bright crimson. Head and thorax generally showing more or less signs of paler spots. Cuneus white; thighs red, spotted with black at the apex.

Var. *querceti*: ground colour pale whitish, more or less sprinkled with crimson spots. Cuneus white. Membrane in all the varieties slightly dusky, with the cells posteriorly darker, and with a dark transverse band below the apex of the cuneus, the dark colour continuing round the cells. The membrane is paler below this, and clouded again at the apex. Very pale specimens are the var. *dilutus*.

Length  $1\frac{1}{2}$  line.

Onallows, &c.; common; all the varieties occur together.

11. *lepidus*, Fieb.

Brown, clothed with golden hairs. Corium, especially in the ♀, with a more or less reddish tinge. Cuneus red, narrowly pale at the base. Membrane dusky, with a pale spot below the apex of the cuneus; nerves whitish. Thighs brown, spotted with black. Antennæ pale; second joint in the ♂ thicker than in the ♀.

Length  $1\frac{3}{4}$  line.

On ash trees; not rare.

12. *roseus*, Fall.= *salicis*, Dougl. & Scott.

Bright red or brownish-red; ♂ with the sides of the elytra subparallel; pubescence golden, mixed with black hairs. Elytra with a darker triangular spot above the cuneus. Cuneus widely pale at the base, narrowly at the apex. Legs pale ochreous; thighs spotted with black. Membrane dusky; cells, except at their extreme apex and two transverse spots below the cuneus, paler.

Length  $1\frac{1}{2}$ — $1\frac{3}{4}$  line.

On willows and birches, &amp;c, by beating; not rare.

13. *alnicola*, Dougl. & Scott.= *alni*, Dougl. & Scott, nec Fab.

Very like the preceding, but differs from it in being more densely pubescent, and in having the pubescence arranged in irregular patches on the elytra; the cuneus also is only very narrowly pale at the base, and concolorous at the apex.

Length  $1\frac{1}{2}$  line.

On alders; Lewisham, Esher, &amp;c.

14. *varians*, H.-Seff. Fig. Dougl. & Scott, Brit. Hem. pl. xiii. fig. 7.= *distinctus*, Dougl. & Scott.

Orange-red, covered with deciduous golden hairs intermixed with black ones; base of the elytra often paler. Cuneus red; base widely, and apex white; extreme apex of the corium, at its juncture with the cuneus, also sometimes white. Membrane dusky; cells at the base and a spot below the apex of the cuneus clear; below this latter is an irregular dusky cloud. Thighs spotted at the apex.

Length  $1\frac{1}{4}$ —2 lines.

Very common on oaks, &amp;c.; June and July.

Very variable in colour and size; sometimes almost entirely pale flavous, at others brownish.

15. *Kirschbaumi*, Fieb.= *roseus*, Dougl. & Scott, nec Fall.

Head, thorax, scutellum and clavus more or less ochreous, sometimes with minute red spots. Corium more or less red, with a darker triangular patch near the apex. Cuneus bright red, very narrowly pale at the extreme

base. Membrane very dark, with a pale spot below the apex of the cuneus; second joint of the antennæ in the ♂ slightly thickened; apical joint two-thirds as long as the third, or more. Thighs spotted at the apex.

Length  $1\frac{3}{4}$  line.

On ashes; Chobham, Reigate, Dartford, &c.

Narrower than *varians*, and distinguishable by the shorter third joint to the antennæ, the very narrow pale base to the cuneus, and the clouded spot on the elytra.

### PLAGIOGNATHUS.

I. Tibiæ with strong black spines springing from small black spots.

A. Hind margin of the head strongly carinated and slightly produced .. .. *Roseri*.

AA. Hind margin of the head not strongly carinated.

B. Pubescence thick, black, and deciduous.

a. First and second joints of antennæ pale *viridulus*.

b. First and second joints of antennæ black *arbustorum*.

BB. Pubescence thick, dense, and silvery .. *albipennis*.

BBB. Pubescence fine, grey, and adpressed.

C. Larger, a pale spot on each side of the head inside the eyes.

a. Base of the elytra widely pale .. .. *Bohemanni*.

b. Elytra entirely brown .. .. *nigritulus*.

CC. Smaller; head entirely dark.. .. *pulicarius*.

II. Tibiæ with fine hair-like spines not springing from black spots.

a. Base of the elytra pale .. .. *saltitans*.

b. Base of the elytra concolorous .. .. *Wilkinsoni*.

1. *albipennis*, Fall. Fig. Hahn, Wanz. Ins. ii. fig. 177.

♂ Elongate; ♀ suboval, green or blackish-grey, densely clothed with silvery-white hairs. Head, thorax in front, scutellum, apex of the clavus, and a spot near the apex of the corium, sometimes darker. Cuneus pale at the base, darker at the apex. Membrane dusky, with a pale spot below the apex of the corium; thighs brown; tibiæ whitish, with large, thick, black spines. Antennæ: first and second joints black, apex of the second and the third and fourth often yellowish.

Length  $1\frac{1}{2}$  line.

On *Artemisia maritima*, Hayling Island, and *Artemisia absinthii*, gardens, Reigate; common.

2. *viridulus*, Fall. Fig. Meyer, Capsidæ, pl. vii. fig. 2, ♀.

Pale yellowish-green, densely clothed with black deciduous hairs. Membrane generally with a dark transverse line below the apex of the cuneus; cells sometimes dark at the apex; thighs finely spotted with black; tibiæ with black spines. Antennæ testaceous; first joint black at the base, and with a dark ring near the apex; second black at the extreme base, and sometimes slightly dusky at the apex.

Length  $1\frac{3}{4}$ —2 lines.

Very common; on nettles, &c.

3. *arbustorum*, Fab. Fig. Dougl. & Scott, Brit. Hem. pl. xiii. fig. 5.

Black, brown, or pale greyish-brown; cuneus sometimes paler, sometimes concolorous, densely clothed with black deciduous hairs. Membrane blackish, with a clear spot below the apex of the cuneus. Legs pale; thighs margined with black on each side, and more or less spotted; tibiæ with thick black spines. Antennæ: first, second and extreme base of the third black; apex pale.

Length 2 lines.

Very common; on nettles, &c., in all its varieties; by sweeping.

4. *Roseri*, H.-Scff. Fig. H.-Scff. Wanz. Ins. iv. fig. 407, ♀.

Head carinated posteriorly, black; the eyes usually margined with brownish-yellow. Thorax either entirely black, or testaceous with the callosities black or red. Scutellum black or red. Elytra flavous, finely pale pubescent. Corium either with a broad black vitta, extending from some distance below the base to the interior apical angle, or entirely pale. Cuneus red, with the base pale or entirely pale. Femora red, with the bases black. Antennæ: first and second joints black, third and fourth paler, or with the first reddish, darker at the base, second broadly pale in the middle.

Length  $1\frac{3}{4}$  line.

Sallows, &c.

5. *Bohemanni*, Fall. Fig. Dougl. & Scott, Brit. Hem. pl. xiii. fig. 9.

Shining brown or blackish-brown, clothed with very fine adpressed yellowish-white hairs. Head with a line

inside each eye, and sometimes with the base pale. Thorax generally with a narrow, pale, dorsal line in front, sometimes also at the base. Scutellum with a pale spot on each side of the base; elytra with the base to a greater or less extent, and the cuneus at the base, pale whitish. Membrane dusky, with a clear spot below the apex of the cuneus. Thighs brown, pale at the extreme apex; tibiae pale, with strong black spines. Antennae black, apex of the first joint pale.

Length  $1\frac{3}{4}$  line.

Common on dwarf sallows at Deal.

6. *nigritulus*, Fall. Fig. Scott, Ent. Ann. 1864, fig. 5  
(*Scotti*).

= *Scotti*, Fieb.

Black or brown, covered with a fine adpressed, greyish pubescence. Head with a pale line bordering each eye on its inner margin. Scutellum sometimes with a yellow spot on each side. Cuneus entirely dark. Membrane dusky, with a clear spot below the apex of the cuneus. Femora dark brown, with the apices paler. Tibiae pale, with black spines; tarsi with their apices black.

Length  $1\frac{1}{2}$  line.

With the preceding, but rarer.

7. *pulicarius*, Fall. Fig. Dougl. & Scott, Brit. Hem.  
pl. xiv. fig. 1.

Small, black, shining, covered with a fine, adpressed, grey pubescence. Membrane dusky; apices of the femora pale. Tibiae pale, with strong black spines. Antennae with the third and fourth, and apex of the second joint, whitish.

Length 1 line.

On sallows, &c.; Deal, Wimbledon, Woking, &c. &c.

8. *saltitans*, Fall.

Head and thorax black; base of the former, and the inner margins of the eyes, pale. Elytra pale at the base and the extreme apex, the rest brown, covered with fine, adpressed, yellowish hairs; without cuneus or membrane, and not reaching much beyond the middle of the body. Thighs brown, with the apices paler; tibiae testaceous, with fine, black, spiny hairs. Antennae black, third joint brownish, fourth paler.

Length 1 line.



By sweeping, occasional; Dawlish, Wimbledon, Reigate, &c. &c.

9. *Wilkinsoni*, Dougl. & Scott.

Smaller than the preceding, entirely brown, clothed with fine, grey, adpressed hairs. Elytra undeveloped, reaching to about the middle of the body. Legs with the thighs brown, paler at the apex; tibiæ testaceous, with fine spine-like hairs. Antennæ brown; apex of the first joint pale, third and fourth luteous.

Length  $\frac{3}{4}$ th line.

Scarborough, at the roots of *Convallaria*.